

**Preserving Jewellery Created from Plastics
and Rubber: Application of Materials and
Interpretation of Objects**

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Abstract

The adoption of plastics and rubber to artist jewellers' repertoire of materials in the late 1960s marks a significant and permanent alteration to the artist jewellery discipline. Since this time the physical and conceptual possibilities of plastics have fuelled and enabled developments in this artistic field. Since the early 1970s museums and private collections have continually acquired artist jewellery created from plastic. Some of these artworks are now exhibiting change or deterioration. Discussion and debate regarding their preservation is a pressing need. To date, whilst there has been recent research into the deterioration of plastic materials found in cultural heritage, almost no published work or debate has addressed artist jewellery specifically.

This research positions plastic artist jewellery within the expanding discipline of modern materials conservation and aims to raise awareness of preserving plastic jewellery artworks. The prevalent plastics in use for artist jewellery, their properties and importantly application, to create artistic intent, are identified. Current attitudes of custodians and artists towards preservation, which has a bearing on the past and future prospects of the artworks, are analysed. Despite not having articulated their opinion previously, many jewellery artists have considered the long term prospects of their work as part of their artistic practice. As change and deterioration of the artworks is inevitable the impact of change to jewellery artworks is considered. Understanding how material properties are applied to create intent, as identified, is essential to comprehend meaning and any alterations as a result of change. Finally, having deliberately drawn artists into the preservation debate the nature of their input is considered. Should jewellery artists intervene in their own work when treatment is required?

The research is from a humanities rather than scientific perspective and is concerned with objects and their interpretation in the context of preservation. The artworks are the starting point and their context as jewellery objects is the primary concern. Oral testimony of artists is also crucial to draw the artists into the preservation process as stakeholders and because jewellery artists are hitherto unrecorded in this context. What is demonstrated throughout the thesis is that the wearable function of jewellery has a bearing on their perception and interpretation as objects.

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Preface

Some years ago my long standing curiosity in jewellery, in all its variety, became a serious pursuit and I began to purchase pieces from galleries created by named artists. Unwittingly my interest in plastic jewellery began simultaneously because the pieces I tended to acquire were made from these versatile materials. Yet at that time my jewellery was selected by instinct not erudition. I was attracted by the range of colour and innovative forms made possible by the properties of plastic materials. By comparison the often smaller and, in my mind, more conservative artist jewellery created from metals, in particular, appeared less exhilarating.

Certainly on wearing my jewellery I got used to the stares and comments of passers by, as well as friends and family, and I began to wonder why I and they found such pieces so engaging. In short what defines jewellery and what can plastic materials offer this intimate but expressive genre? As a professional conservator I began to question if any plastic pieces had been conserved and indeed whether preservation had even been considered. I could not find one published word on the subject yet I was aware that some jewellery existed in museums. In my mind preserving and conserving such works, where appropriate, is constructive to enrich cultural heritage yet could not appreciate whether other stakeholders, artists and custodians concurred. Increasingly I wanted to know how plastic artist jewellery may be contextualised within the expanding discipline of modern materials conservation. So my amateur curiosity became an academic pursuit. Hence the thesis is in answer to my own requirements but is also intended to raise the same interest in others.

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All artist jeweller interviewees and specialists, listed in appendix 1, for being so munificent with their thoughts, knowledge and collections. Also those few who declined my requests, for this too taught me a great deal about the research process.

James Beighton, Curator of Craft and Ruth Partington, Conservator, at Middlesbrough Institute of Modern Art (mima) warrant special mention. Without the input of these professionals and repeated trusting access to arguably one of the most significant jewellery collections in the UK I would not have encountered artist jewellery so closely.

I also thank staff at Textile Conservation Centre, University of Southampton, and the Collection Care at the British Library, my employers for the duration of this research. The intelligent framing of conservation issues and discussion these professionals provided enabled me to reflect on the data that I collected. Particularly to Helen Shenton, Head of Collection Care, British Library, for the support to enable me to submit.

Finally and yet perhaps most importantly, Jeremy Wakeham, for I have tested the patience of this saint.

Author's Declaration

During the period of registered study in which this thesis was prepared the author has not been registered for any other academic award or qualification.

The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

Cordelia Rogerson

June 2009

Abbreviations

The following abbreviations for plastics materials are used throughout the thesis in accordance with the Plastics Standard Abbreviation ISO 1043/ ASTM 1600.¹

PMMA **poly(methyl methacrylate)**

PA **polyamides, nylon**

UP **unfilled cast resins, unsaturated polyester resin**

¹ Braun, Dietrich, Simple Methods for Identification of Plastics. Fourth Edition. (Munich: Hanser, 1999) 106-119

Chapter 1

Introduction

For several years, prior to and during the research presented here, I contemplated why I found collecting and wearing plastic artist jewellery so engaging. The conclusion I draw is that the jewellery I choose to wear creates a strong impression about me to others and this is easy to achieve. Whether a positive or negative impression is made, I find my choices are almost always noticed and commented upon, more so than my clothes. Wearing unconventional jewellery is an effective way to be distinguished from others and I am often remembered by other people precisely because of this interest. Yet whilst I make expedient use of the jewellery to distinguish myself, I am in fact relaying the artists' expression. As a bearer of others' ideas, naturally I am interpreting the jewellery for my own purpose, but without the artists' intent, expressed through the artworks, I could not do this. Whilst my thoughts are essentially personal there is evidence I am not alone in this respect. Critic Linda Sandino has translated a similar strand of thought into a critical framework. She states 'jewellery is a cultural symbol that stands for the private body as well as the social one, its personal links even more profoundly intimate than clothing, whilst its symbolism extends into the drama of public display.'¹ Both Sandino and I recognise that, jewellery is more than an adornment draped around a body, it is both an intimate and highly public means of expression.

It seems ironic therefore, that for artworks which draw attention to the wearer, this thesis is necessary because the jewellery has been overlooked in other contexts. Plastic artist jewellery, and the artists who create them, hitherto have almost no presence within expanding debates regarding the preservation and associated ongoing interpretation of modern materials within the heritage industry. 'Why are you bothering with jewellery?' asked a fellow conservation research student towards the beginning of my work; they were studying modern materials in Fine Art at the time. Artist jewellery is a relatively small and specialised branch of applied art. Perhaps this reality leads some to believe the discipline lacks substance. As will be demonstrated, however, artist jewellery is no less expressive or innovative than any other form of art. The application of

¹ Sandino, Linda, 'Studio Jewellery: Mapping the Absent Body,' The Persistence of Craft The Applied Arts Today, Paul Greenhalgh ed. (London: A&C Black. 2002) 107

plastics within artist jewellery has enabled a broader exploration of the genre and it is these materials of interest in the thesis. The properties of plastics permit creative articulations and constructions that are less, or not, possible with other materials. Furthermore, museums and private collections continually acquire artist jewellery created from plastic. Today some of these artworks are exhibiting change, some of which is to the detriment of the artworks. I believe preservation of these artworks is vital because they form an incisive and rich vein of cultural artistic heritage. Moreover, the study of such artworks from a conservator's perspective reveals new subtleties and perspectives for modern materials conservation. Some are specific to jewellery; others are more broadly applicable concepts. The aim of the thesis, therefore, is to position plastic artist jewellery within the developing discipline of modern materials conservation to initiate debate and encourage their preservation and ongoing interpretation.

Before further details of my approach to the research are given, it is necessary to learn more of the jewellery and materials under consideration. Jewellers, who presented their work as art, began to apply synthetic plastics within their work from the 1960s onwards. At this time such materials were regarded as unconventional within the developing artist jewellery discipline. Once embarked upon, however, artists increasingly began to select plastics. Today such materials are commonplace within the artistic genre. Not only does the trend indicate that there is an ever increasing number of plastic jewellery artworks being made, but also establishes the time frame for the research. The artworks under consideration therefore range in date from the 1960s until today, 2009; making them less than 50 years old.

Despite the relative youth of the artefacts under consideration in the thesis plastic materials were not new materials in the 1960s. Nor were artist jewellers the first to apply them in jewellery. Since the development of semi-synthetic plastics in the late 19th century and synthetic plastics from the early 20th century, the potential of such materials was recognised for jewellery. Bakelite, a tradename for phenol formaldehyde, for example, was the first truly synthetic plastic developed in 1907-09 and was soon applied for jewellery and decorative means.² The, then, innovative materials offered alternatives and substitutes to other jewellery making, and sometimes more costly, materials. Looking more

² Davidov, Corinne & Redington Dawes, Ginny, [The Bakelite Jewelry Book](#), (New York, Abbeville Press, 1988)

broadly, non-precious materials have, in fact, been used in jewellery for millennia. Beads, possibly the first form of jewellery with which man adorned himself, have been created from natural non-precious materials such as shell, teeth and wood since an estimated 38,000 B.C.³ Examples of naturally occurring plastics such as amber and horn were also used for millennia, and are still exploited by diverse cultures. Relatively few ancient examples of this jewellery remain since the organic materials have deteriorated over the intervening centuries, a situation that this thesis seeks to minimise for present day plastic artist jewellery.

Two important factors distinguish the plastic jewellery in the research within this wide and resonant jewellery legacy. Firstly, the jewellery is created and preserved from a predominantly western cultural perspective. Secondly, the creators of the jewellery present their work as art and themselves as artists. Meaning is expressed through forms and materials, and the artworks are predominantly interpreted through embodied artistic intent. As will be discussed in chapter 2, an increasing number of jewellers sought recognition as artists during the 1960s onwards. Their adoption of plastics assisted the process.

Although the jewellery items are artworks, they remain functional; it is art that can be worn. Although not all jewellery will be worn, and wider definitions exist, the jewellery in this research is defined as objects designed to adorn the human body, be that female or male.⁴ The association of jewellery with the body, and indeed contact with a body or bodies, is an ongoing theme throughout the thesis. Not only does this impact upon their creation and the artists' choice of materials, but also how the jewellery changes over time. Interpreting the impact of change and subsequent treatment choices must take their function into account.

³ Sherr Dubin, Lois, The History of Beads from 30 000 B.C. to the Present, (London: Thames & Hudson, 2000) 329

⁴ James Beighton, Curator of Craft, Middlesbrough Institute of Modern Art (mima) argues that this definition is too tight. In his opinion jewellery does not have to associate with the body in design or function. I disagree with this because for me the body is central. Moreover, a practical demarcation was necessary in order to give a realistic scope for the research. Personal discussion James Beighton, 17th March 2003.

1.1 What are Plastics?

Despite being ubiquitous and familiar in contemporary society describing and defining plastic materials is problematic. Although commonly and conveniently placed under one term, plastics, the word hides the complexities of numerous diverse materials. Each plastic material possesses individual properties. Such is the variety that any close definition would exclude some. The following description conveys some idea of the materials under consideration, plastics, but is recognised as an overview rather than a definitive explanation.

Plastics is a generic word to describe an industry and its products, and is considered to be correctly used in its plural form.⁵ The industry adopted this name in the late twenties, when the formability of these compositions, while in their plastic state, was thought to be their most important feature.⁶ The name plastic, which is derived from the Greek word *plastikos*, which means to form or to make ductile, was thought appropriate to identify and describe the overriding feature that connected these materials, some of which were recently developed.⁷

Hence plastics are materials that can be formed or moulded and, as solids, able to take on a dimensionally stable form. Plastics are based on polymers. Polymers are macromolecules, or giant molecules, because of the large number of atoms they comprise.⁸ Polymers are formed with building blocks of atoms called monomers. To manufacture plastics, monomers can be built into chains of polymers (thermoplastics) or as cross-linking polymers (thermosets). Thermoplastics are noted for repeatedly softening on heating and hardening on cooling, whilst thermosets are initially soft but change irreversibly to a rigid

⁵ DuBois, Harry & John, Frederick, Plastics, 5th edition. (London: Van Nostrand Reinhold Company, 1974) 473

⁶ Meikle, Jeffrey, L. 'Material Nova: Plastics and Design in the US, 1925-1935,' Eds. S. T. I. Mossman & P.J.T. Morris, The Development of Plastics, (Cambridge: The Royal Society of Chemistry, 1994) 38-53

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⁷ Fleck, R. Whither Plastics? The Possible uses of Plastics in Industry, Science and Art, (London: Temple Press Ltd. 1944)

⁸ Staudinger, Hermann, From Organic Chemistry to Macromolecules, (New York, Wiley Interscience, 1970)

Waentig, Friederike, Plastics in Art, (Petersberg, Michael Imhof Verlag, 2008)

form. On heating thermosets stay rigid until the temperature they decompose.⁹ In chapter 3 it becomes clear that the exact composition and arrangement of atoms into polymer chains and the bonds within and between the chains influences the properties of plastics. Properties of individual materials are also modified through additives such as colorants and plasticisers.¹⁰ Whilst many plastic materials conform to the generic properties identified, each has its own qualities that make it appropriate for particular applications within commerce, industry and for jewellery making.

Several broad types of plastics have already been mentioned; naturally occurring, semi-synthetic (naturally occurring and modified) and synthetic or man-made varieties. The types of plastic materials considered in this research are, in the main part, synthetic. Artist jewellers have evidently discovered the properties of these materials meet their creative needs. The softening and working properties of thermoplastics, such as nylon and acrylic for example, and as will be further explored in chapter 3, lend themselves for applications in non-industrial environments such as artist studios. Such plastics are readily heated and shaped without expensive or particularly complex equipment or knowledge. Describing the properties of every plastic regularly in use by artist jewellers could occupy the entire thesis. Instead, three plastic materials, prevalent in artist jewellery, are given more detailed analysis. Their properties, application by artists and the changes they undergo as jewellery are highlighted throughout. The materials are thermoplastics poly(methyl methacrylate) (PMMA), also known as acrylic, and nylon and thermoset unsaturated polyester resin (UP). These have been most consistently selected by artists over the last few decades by comparison with other materials. Further plastics will, however, be remarked upon as appropriate throughout. Natural and modified rubber, an elastomer, is also included. Elastomers are materials that can be repeatedly stretched to over twice their length (200% elastic elongation) and then immediately return to their original length when released. Due to its generally poor resistance to ageing,

⁹ Shashoua, Yvonne, Conservation of Plastics. Materials Science, Degradation and Preservation, (Oxford: Butterworth Heinemann, 2008) 19

¹⁰ Billmeyer, Fred, Textbook of Polymer Science, (New York: Wiley-Interscience, 1971)
 Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000)
 Brydson, J. A. Plastics Materials, Sixth Edition, (London: Butterworth Heinemann, 1995)
 Manzini, Ezio, The Material of Invention, Materials and Design, (Cambridge, Massachusetts: The MIT Press, 1989)

rubber is of interest in interpretation and preservation contexts of artist jewellery.¹¹

For brevity, throughout the thesis, references to plastics and rubber materials are combined under the term plastics. Specific compounds, additives and so forth, of the plastic materials applied in the jewellery are not distinguished because such detailed identification is beyond the scope of the research and unnecessary from the perspective taken, explained below. In addition, oral testimony revealed jewellers rarely identify the exactitudes of the materials they exploit.

¹¹ Shashoua, Yvonne, [A Technique for Quantifying the Degradation of Rubbers](#), British Museum Report no. 1995/1 Conservation Research Section, Department of Conservation, 1995.

1.2 A Humanities Approach to Modern Materials Research

Plastics are, of course, not the only materials selected by artist jewellers since the 1960s but several reasons exist for selecting them for my research. As already implied, plastics are linked with the development and growth of jewellers as artists. The properties of plastics have and still enable artist jewellers to push the boundaries of their discipline. My research demonstrates the substantial presence and role of these materials in the development of the discipline. The very existence of this thesis implies that plastics, and jewellery created with them, change over time and also need preserving. My research is the first to consider plastic artist jewellery within the context of preservation. Not only does my research raise awareness of the plight of jewellery, which is currently overlooked and is changing with time, but also augments and enriches existing knowledge regarding the preservation of modern materials.

The research is from a humanities rather than scientific perspective and is concerned with objects and their interpretation in the context of preservation. That is the artworks are the starting point for my research; their context as jewellery objects is the primary concern. Traits that are applicable generally to plastic artist jewellery are identified and that takes into account their functional nature. Moreover, I am considering the application of plastics in objects and how they have functioned in practice, rather than for plastic materials in isolation. Within my research, therefore, plastics are presented as a means to an end not an end in itself.

My research builds on and develops previous research in modern materials by applying and adapting existing knowledge and approaches to the jewellery discipline. The study of plastic materials within conservation, until recently, has been predominantly from a scientific and technical conservation point of view. Understandably and necessarily so, because when the catastrophic and sometimes rapid deterioration of some plastic materials was recognised it was imperative to understand what and how deterioration occurred.¹² Yvonne Shashoua, Anita Quye and Colin Williamson, for example, present publications

¹² Bellany, J., Littlejohn, D., Pethrick, A. & Quye, A. 'Probing the Factors Which Control Degradation in Museum Collections of Cellulose Acetate Artefacts,' American Chemical Society 'Polymers in Museums,' August (1998)

Lorne, A. 'The Poly(methyl) Methacrylate Objects in the Collection of The Netherlands Institute for Cultural Heritage,' Preprints from ICOM-CC 12th Triennial meeting, Lyon, 29 August-3 September 1999, (London: James & James, 1999)

that draw together this type of research and knowledge for conservators.¹³ Introductions into the composition and deterioration of various plastics are given and these authors are primarily concerned with the behaviour of individual plastic materials rather than the interpretation and characteristics of objects created with the materials. My research, therefore, does not need to consider in any depth the deterioration mechanisms of plastics, since current knowledge is published comprehensively elsewhere. Research and publications that consider plastic objects in practice and the impact of change upon them, similar to the approach I am taking, also exist. Yet almost exclusively this is restricted to Fine Art and sculpture at present.¹⁴ I am building on this knowledge by evaluating a genre or type of artefact, jewellery, which extends beyond this narrow remit. I do, however, draw parallels between Fine Art and that of artist jewellery where appropriate. Importantly, and as already discussed, I identify traits that are applicable to plastic artist jewellery generally, as a result of their wearable function, rather than studying individual examples only as tends to occur in Fine Art and sculpture research.

My research involved the study of plastic artist jewellery in museums and private collections, some that was known to have undergone change or deterioration. As part of this process I consulted with the collection custodians to gain their perspective on preservation. These collections are detailed in chapter 4. Over 500 plastic jewellery artworks were examined.

A further substantial approach and research method I apply is oral testimony of artist jewellers. Much as plastic jewellery objects are overlooked within modern material conservation so are the artists who create them. Artist jewellers are hitherto unrecorded in the context of preservation. Drawing them into the preservation process as stakeholders is crucial to record their working methods

¹³ Quye, A. & Williamson, C. Plastics Collecting and Conserving, (Edinburgh: NMS Publishing Ltd, 1999)

Shashoua, Yvonne, Conservation of Plastics Materials Science, Degradation and Preservation, (Oxford: Butterworth Heinemann, 2008)

¹⁴ Beerkens, Lydia, 'Go with the Flow – Scientific Research & Conservation Options for a Floating Glass Fibre Polyester Sculpture,' Plastics: Looking at the Future & Learning from the Past, Keneghan, B & Egan, L. eds. (London: Archetype Publications, 2008)

Heuman, Jackie, ed. Material Matters: The Conservation of Modern Sculpture, (London: Tate Gallery Publishing, 1999)

and opinion should their artworks change. Endorsement of artist opinion enables and assists conservation decision-making. Having created the jewellery, artists know what aspects of the materials and their artworks are important to them. The voices of the artists are incorporated throughout the thesis. Application of artist testimony for this research once more builds on existing methods for modern materials research. Fine Artists and sculptors have been formally interviewed regarding their work for over a decade. Several international initiatives have sought to achieve this.¹⁵ My research is the first time artist jewellers have been recorded in this way, however. For clarity, when artists are mentioned in the text their birth date is provided to give a sense of their generation.

My research quite deliberately encouraged the perspectives of artists, custodians of jewellery collections, as well as conservators. I address my thesis to these stakeholders. During the research process I spent most time with curators and artists to discuss the application of materials and interpretation of objects because these are the stakeholders who deal with the jewellery most often. Other conservators were of less help since little conservation work has been done to plastic artist jewellery and little consideration given to the subject.

Inevitably much of my research is subjective, as is a large part of conservation practice, for example, when assessing and interpreting objects and making treatment decisions. Some of the debates within the thesis will have no definitive conclusion. Raising debate and awareness of jewellery and their future within jewellery collections is the key.

Chapter 2 places the use of plastics for artist jewellery in context beyond the jewellery discipline and demonstrates how artist jewellery fits into plastics history, as well as deserving a place in modern materials conservation. The impetus for the use of plastics by artist jewellers from the 1960s is demonstrated as influenced by existing use in industrial, product design and Fine

Hummelen, Y, Sillé, D, ed. Modern Art: Who Cares? An Interdisciplinary Research Project and International Symposium of the Conservation of Modern and Contemporary Art, 2nd ed.

(London:Archetype Publications, 2004)

¹⁵ Guide to Good Practice: Artists' Interviews. International Network for the Conservation of Contemporary Art, <http://www.incca.org/> accessed 20th January 2003

The Decision-Making Model for the Conservation and Restoration of Modern and Contemporary Art, Foundation for the Conservation of Modern Art/ Netherlands Institute for Cultural Heritage, 1999, <http://www.incca.org/> accessed 20th January 2003

Art. The chapter highlights the range and pattern of application of plastic types applied for artist jewellery and identifies the prevalent varieties.

Chapter 3 takes the three most prevalent plastics applied in artist jewellery, PMMA, nylon, UP, and asks what are their attractive properties for artist jewellers and how are they specifically applied to create jewellery. The composition and properties of each are summarised before its application to jewellery is analysed. PMMA is prized for its visual qualities, nylon for supple strength and UP for mouldable versatility. In this chapter we begin to see artists' attitudes towards their materials and which properties of plastics are relied upon to enable and support artistic intent, to push the boundaries of the discipline. This is subsequently important for assessing the impact of change.

Chapter 4 presents and summarises the eight jewellery collections studied during my research. Five in the public domain and three privately held. The thrust of the chapter, however, is to present the current attitudes towards preservation by collection custodians and artists of plastic jewellery artworks. These are presented side by side for the first time. Not only do levels of preservation activity and priorities for plastic artist jewellery vary considerably between collections but it is demonstrated that some artist jewellers have intuitively and tacitly considered preservation as part of their artistic practice. Not only are the changing fortunes of the artworks revealed and how their history is being formed but also has implications for whether the objects survive as material evidence of this history.

Having established that plastic jewellery artworks are created and collected in some quantity chapter 5 presents ways to interpret change to these objects. This is based on change that was observed on artworks examined. The properties of plastics so highly valued by artist jewellers, as demonstrated in chapter 3, are made reference to. Three principles are proposed to enable conservators to decide on a course of action for future preservation and treatment. Firstly I propose that that because of finely finished and small-scale surfaces on plastic jewellery small incidents of change have a large impact. The way plastic materials are perceived in general by the conservation profession is questioned. Secondly I present that change, particularly that which constitutes evidence of use, can be something to be valued. Change is not always considered as a detriment to objects within conservation yet plastic objects and jewellery in particular has not been considered similarly before. Finally I propose that when

the wearability of plastic jewellery artworks is lost through deterioration it is a significant milestone in the lifespan of that work. The close relationship between the construction, function and interpretation of intent is analysed. Jewellery in museum collections is framed in a similar context to other functioning objects, such as musical instruments that, arguably, need to be played in order to function properly. My research not only situates jewellery within modern materials conservation but also makes parallels with similar objects where appropriate and advocates that plastic artefacts generally should be viewed in the same framework as other museum objects.

As one of the major themes running through the thesis I have advocated and demonstrated artist input as a positive contribution to determine the application of materials, meanings of objects, attitudes toward their preservation and how changes brought about by damage and deterioration may be interpreted. In the final chapter, 6, before my concluding remarks in chapter 7, I evaluate the nature of that contribution. I propose that artist intervention for plastic jewellery is appropriate but it must be in a collaborative sense, with the conservator and curator. The practical process of intervention is best placed in the hands of a conservator rather than the artist and this is demonstrated by two case studies where plastic artist jewellery has undergone contrasting treatment. One of these was successful and the other less so.

Importantly, with these real life examples in chapter 6 I draw together all of the themes in the preceding chapters. The application of materials and the properties relied upon by the artists to create intent are central to interpreting the impact of the damage upon the artworks. Artist opinion is also crucial in determining this. The age, hence history, of the artworks and relationship and distance, in time, between the artists and their jewellery was also a factor in the decision making processes. Moreover, the desire to preserve these artworks becomes explicit. Differences between the viewpoint and skill sets of artists, conservators and curatorial roles become obvious. Yet the benefit of collective opinion and appropriate influence of the artist, custodian and conservator to enable a satisfactory outcome for the artworks are demonstrated.

1.3 Existing Research and Literature

For my research I combined scholarship from materials science, modern materials conservation, plastics history, and a variety of publications pertaining to the jewellery discipline. In essence existing published research and comment circumnavigates the subject of plastic artist jewellery and its preservation but none delves in. As already intimated this thesis is original because it combines these elements and applies theoretical knowledge of modern materials conservation to a new field and in practice.

Conservation scientist and plastics specialist Dr Yvonne Shashoua commented at ICOM-CC 13th Triennial meeting Rio de Janeiro 2002, Modern Materials Working Group, that the next needed step for the collective modern materials conservation discipline is to treat more objects. At this point Shashoua appeared to recognise that the scientific knowledge already generated needed practical application. This was at the start of my research. At the end of my research Shashoua's newly published book on the subject of plastics conservation still emphasises materials science and deterioration but has far less emphasis on the treatment of plastics.¹⁶ Possibly this is because she has separately concluded that only a limited amount of treatment is possible.¹⁷ Yet nothing is said in Shashoua's book of how degradation affects the interpretation of objects. If preservation and conservation of plastics is necessarily limited due to the nature of the materials, as Shashoua has observed, then discussion regarding ongoing interpretation due to change, that cannot be treated, is surely a pressing need.

Published case studies of modern materials objects also demonstrate a continued emphasis upon science to decipher plastic objects.¹⁸ The AXA art project at the Vitra Design Museum to study to conservation of modern plastic furniture, for example, has a technical emphasis, disappointingly very little is mentioned of

¹⁶ Shashoua, Yvonne, Conservation of Plastics Materials Science, Degradation and Preservation, (Oxford: Butterworth Heinemann, 2008)

¹⁷ Shashoua, Yvonne, 'Conservation of Plastics – Is it Possible Today?' Plastics: Looking at the Future & Learning from the Past, (London: Archetype Publications, 2008)

¹⁸Bechtold, Tim, 'Houston We have a Problem When Flying Saucers Become Brittle,' Plastics: Looking at the Future & Learning from the Past, (London: Archetype Publications, 2008)

Van Oosten, Thea, Joosten, Ineke & Megens, Luc, 'Man-made Fibres from Polypropylene to Works of Art,' The Future of the Twentieth Century: Collecting, Interpreting and Conserving Modern Materials, ed. Cordelia Rogerson and Paul Garside, (London: Archetype Publications, 2006) 61-66

interpretation of objects.¹⁹ Other recent research is concerned with the practical aspects of conservation only.²⁰ Unsurprisingly there is great emphasis in existing research on plastics that are known to degrade readily such as cellulose nitrate and polyurethane and a tendency to publish dramatic examples to accentuate a point but not look at the subtleties of interpretation.²¹ Much less emphasis is placed on plastic artefacts that show less overt and dramatic change over time and the still potentially high impact of this. I argue through my research that even these more subtle changes are important, particularly on jewellery. Only when such changes and their impact are widely acknowledged and debated will the modern materials conservation mature in the way Shashoua envisaged in 2002.

Of the existing research the conference and associated publication *Modern Art Who Cares?* stands out. In the project artists were involved as part of the decision making process and interpretation of Fine Art created with modern materials.²² As part of this project Bosma et al present a decision making model to assess the relative importance of various factors prior to proposing a conservation treatment. Here the condition of the materials is combined with the significance of the resulting change in relation to the specific artwork. This publication although now 10 years old remains a central building block for my perspective towards artist jewellery and its conservation.

Conservation, even restoration, literature concerning jewellery is notable by its absence. Only five articles touching on this subject were encountered. Fine jeweller Ricardo Basta Eichberg describes the reconfiguring and restoration of historic precious jewellery.²³ He justifies this interventive stance in that it

¹⁹ Albus S. Bonten, Christian, Keßler, Kathrin, Rossi, Gabriella & Wessel, Thomas, Plastic Art- A Precarious Success Story, (Cologne: AXA Art Versicherung, 2007)

²⁰ Wickens, Joelle, Eero Aarnio's Globe: A Platform for an Investigation of Challenges and Possibilities Related to the Conservation of Twentieth Century Foam Upholstered Furniture, Unpublished PhD thesis, University of Southampton, 2008

²¹ Garside, P & Lovett, D. 'Polyurethane Foam: Investigating the Physical and Chemical Consequences of Degradation,' The Future of the Twentieth Century: Collecting, Interpreting and Conserving Modern Materials, ed. Cordelia Rogerson and Paul Garside, (London: Archetype Publications, 2006) 77-83

²² Hummelen, Y, Sillé, D, ed. Modern Art: Who Cares? An Interdisciplinary Research Project and International Symposium of the Conservation of Modern and Contemporary Art, 2nd ed. (London: Archetype Publications, 2004)

²³ Basta Eichberg, Ricardo, 'The Restoration of Antique and Period Jewellery,' Proceedings of the Santa Fe Symposium on Jewellery Manufacturing Technology, May 2000, 57-70

enables objects to be worn once more. Whalley describes some solutions used for creating tiara mounts for a Victoria & Albert Museum (V&A), London exhibition and the reconfiguring of a Castellani diadem for the new V&A jewellery galleries.²⁴ All three papers address technical rather than intellectual matters surrounding the treatment of jewellery. Ethical and interpretation issues are mentioned in passing. No comment is made regarding the chosen presentation of tiaras, for example, to assist interpretation, instead the practical challenges of the form only are described. As such the papers offer limited foundation for understanding the characteristics of jewellery and how this may be acknowledged and addressed by conservators. Whalley, Senior Metals Conservator at the V&A has latterly written a short piece addressed specifically to practising artist jewellers.²⁵ She comments that the V&A contemporary jewellery collection underwent assessment and some conservation prior to the recent redisplay. The thrust of the article is to emphasise that there are complexities when dealing with modern materials and the forms created with them, by comparison with more conventional and familiar jewellery. Whalley, however, stops short of revealing any of the complexities she alludes to. Similar to the two articles described before, her perspective was practical not contextual or academic. What may be deduced from this article is that although she is a conservator familiar with jewellery, Whalley was uncertain how to approach plastics. Treating the jewellery appeared complex to Whalley because there were few precedents to draw on. No evaluation of the impact of damage is given just that some treatment was necessary prior to display. This lack of experience and appraisal of art created from modern materials also surfaces in the fifth publication. Amanda Fielding, then Curator of the Crafts Council collection, presented almost a cry for help and comment when a latex necklace in the collection *Chain*, by Christoph Zellweger (b.1962) became severely degraded.²⁶ She hoped to initiate debate regarding artefacts with a short life span amongst fellow curators. Firstly the situation reveals a lack of awareness regarding materials and their preservation needs within the Crafts Council, which she acknowledges. Furthermore, Fielding reports a meagre response to the article.²⁷ Possibly a cause was a total lack of experience of the subject area by others, or

²⁴ Whalley, J. & Mandeville, R. 'Tiaras – Mount Making and Installation,' V&A Conservation Journal, 41, Summer (2002): 4-5

Whalley, J. 'The Castellani Diadem,' V&A Conservation Journal 50 Summer (2005): 30-32

²⁵ Whalley, J. 'Heirloom Today Gone Tomorrow,' Findings 42 December (2007): 4

²⁶ Fielding, A. 'Perish the Thought,' Museum Journal July (2001): 20-21

an unwillingness to engage in an unknown subject area that is potentially problematic.

Fielding's article conveniently acts as a starting point for the present research because it demonstrates both the occurrence of preservation issues within the jewellery discipline and the lack of knowledge surrounding them. Fittingly a solution and formal public debate regarding the Zellweger necklace is in progress as this research draws to a close. I formally participated in the project. Details of the venture and the impact the present research has had for this project is, therefore, presented in the conclusion.

A body of literature specifically addressing contemporary jewellery already exists. These tend to fall into the following categories, art historical analysis, artist monographs, exhibition catalogues and 'how to' books. Chapters in edited volumes critiquing applied art such as Simon Fraser's paper *Intellectual Colonialism: Post War Avant-garde Jewellery* showcases several artists' work to emphasise the conceptual elements of jewellery and critiques artistic practice with reference to contemporary society.²⁸ Publications of this nature provide a much-needed critical framework to reinforce and analyse the artistic endeavours of jewellers as artists rather than artisans. In terms of single volumes, Dormer and Turner provide the books that are perhaps best known and still considered by some as seminal contributions to studying contemporary jewellery.²⁹ Their impact will be further examined in chapter 4. Now several decades old these monographs appear yet to be superseded by a single volume. Several books examine the history and development of jewellery from a conceptual point of view. Drutt and Dormer, for example, used broad concepts such as Scale, Form and Content, Jewelry and Identity, as starting points for examining jewellery history.³⁰ In all of these publications, the application of materials is discussed but within the context of other ideas. The application of materials is not discussed as

²⁷ Amanda Fielding, Head of Collections, Crafts Council, London, personal discussion. 16th December 2002

²⁸ Fraser, Simon, 'Intellectual Colonialism: Post War Avant-garde Jewellery,' *The Persistence of Craft*, ed. Paul Greenhalgh. (London: A&C Black, 2002) 173-184

²⁹ Dormer, Peter & Turner, Ralph, *The New Jewelry, Trends and Traditions*, (London :Thames & Hudson, 1994)

Turner, Ralph, *Jewelry in Europe & America, New Times, New Thinking*, (New York: Thames and Hudson, 1996)

³⁰ Drutt, Helen & Dormer, Peter, *Jewelry of Our Time: Art Ornament and Obsession*, (London: Thames and Hudson, 1995)

a subject in its own right and any discussion regarding materials of any type is typically given little space. Falk and Holzach offer short comment on the rejection of traditional materials during the 1970s.³¹ Reinhold discusses the use of new materials within jewellery and alludes to innovative ideas, such as André Robeiro's use of rubber as a backing for diamonds, but concentrates much of the discussion on metals.³² West interviewed artists to gain their opinion on the use of materials and has written a useful summary of their thoughts. Despite this West's debate emphasises the use of traditional versus non-traditional materials rather than modern materials and what properties and possibilities they offer jewellers.³³ The study of materials for materials sake in academia and art historical contexts remains unfashionable.

Although the books and papers, above, acknowledge and document that less conventional materials for artist jewellery began to be used in earnest from the 1960s, the scope and influences cited tend to be limited to the jewellery discipline. Few influences that contributed to such a change in direction for jewellers beyond their immediate discipline are considered. These studies are introspective as a result, ignoring the wider application of plastics in society. Plastics design history and social history publications do offer a wider historical context for plastics in society.³⁴ Some of these commentaries do include jewellery in their assessments but again this tends to be brief and inclusion of artist jewellery lacks any depth.³⁵

Within the corpus of published instruction books for making jewellery some specifically discuss plastic materials and their application.³⁶ Despite this very little is communicated as to why plastic materials have particular properties. Murphy in her monograph on polyester resin (UP) recalls that other literature on

³¹ Falk, F. & Holzach, C. Schmuck der Moderne, Modern Jewellery 1960-1998, (Stuttgart: Arnoldsche Art Publishing, 1999)

³² Reinhold, L. 'New Materials and the Jewelry Industry,' Schmuck 2000 Rückblick Visionen, (Ulm: Verlag Ebner, 1999)

³³ West, J. Made to Wear Creativity in Contemporary Jewellery, (London: Lund Humphries Publishers (in assoc. with The Lethaby Press) 1998)

³⁴ Handley, Susanna, Nylon The Manmade Fashion Revolution, (London: Bloomsbury, 1999)
Meikle, J. American Plastic, a Cultural History, (New Brunswick, N.J.: Rutgers University Press, 1995)

³⁵ Katz, Sylvia, Classic Plastics from Bakelite to High-tech, (London: Thames & Hudson, 1984)

³⁶ Gale, E. & Little, A. Jewellery Making, (London: Hodder Headline Plc. 2000)

McGrath, J. The Encyclopaedia of Jewellery Making Techniques, (London: Headline Book Publishing Ltd. 1998)

Watkins, D, Design Sourcebook, Jewellery, (London: New Holland Publishers, 1999)

the material is scientific and, in her opinion, unfathomable by jewellers.³⁷ Murphy sought to demystify UP for her profession. In doing so, however, she does not present even the basic structure of UP to explain some of its notable characteristics, such as brittleness and poor resistance to scratching. Similarly Untracht, in his extensive tome communicates how to bend PMMA.³⁸ Yet he omits to explain overtly that it can bend or why it is able to. Such approaches seem superficial and encourage only a scant understanding of materials by jewellers. The creative possibilities of plastics are presented in these 'how to' books with an emphasis on presenting finished artworks, not learning the material from its properties first which then facilitates the creative process. Longer term behaviour of materials is habitually overlooked.

Use of artist opinion does feature within existing jewellery literature. West, as implied above, notably used oral testimony to construct her arguments. Jeweller Caroline Broadhead's thoughts regarding the development of her oeuvre are published in a monograph.³⁹ In several exhibition catalogues and papers shorter extracts of artist opinion are presented.⁴⁰ Although these generally reveal the developmental processes the artists have undergone, even the range of materials they have applied, there is no mention of longer-term considerations. My interview with Broadhead in 2004 extended the content of the earlier monograph since preservation was not a feature of these earlier thoughts. Artist opinion remains hitherto unrecorded in the context of preservation.

My thesis relied upon all of the literature types cited. My task was to draw these different perspectives together.

³⁷ Murphy, Kathie. Resin Jewellery, (London: A & C Black, 2002)

Billmeyer, Fred, Textbook of Polymer Science, (New York: Wiley-Interscience, 1971)

Brent Strong, A. Plastics Materials and Processing, (London: Prentice Hall, 2000)

³⁸ Untracht, O. Jewelry Concepts and Technology, (London: Robert Hale, 1982)

³⁹ Housten, J. Caroline Broadhead, Jewellery in Studio, (London: Bellow Publishing, 1990)

⁴⁰ Emmy Van Leersum, (Amsterdam: Stedelijk Museum, 1979)

Lyons, Nancy, 'An Interview with Jan Yager,' Newsletter The American Society of Jewelry Historians 21 2 September (1997)

1.4 Artist Interviews – Method and Evaluation

As a conservator with an interest in preserving artist jewellery I had not met or talked to any artist before this research. The interviews form a major part of my research and so the method used and a brief evaluation is given. A record of artists interviewed as well as other specialists consulted during my research is given in appendix 1. The interviews had two main objectives. Firstly to draw the artists as stakeholders in preservation. Secondly so that I could learn about the creation of jewellery and the application of materials first hand. Many of the interviews were conducted in artists' studios and seeing their equipment and raw materials gave a greater appreciation of their skill and creativity. Pressures of working space, time and finance as well as problems of procuring equipment and materials for artists became clear. I learned the level of intellectual input and manual dexterity needed to create a meaningful piece of jewellery. Such insight was not gained by reading books, journals or even handling or viewing jewellery in collections.

Selection of interviewees was based on the fact that each applies plastic materials and collectively they represented a time span from the pioneering 1960s until today, thus enabling the application of plastics to be tracked over time. Some are established artist jewellers whilst others are newer to the profession, giving both mature and fresh points of view. Whilst some more established artists have today abandoned jewellery in favour of other art forms, their opinions, developed over some decades, provided insightful reflection on their earlier work. More practical factors, such as availability and logistics and willingness, inescapably exerted an influence on the selection process. All but one artist, Jan Yager (b.1953), is European, reflecting the leading role of European countries in artist jewellery from the 1960s. Despite this European dominance Yager's work, is, for me, the most provoking and articulate of all the jewellery encountered, discussed in chapter 5.

The interviews were based upon published precedents for artist testimony of Fine Artists in conservation.⁴¹ The method effectively prompted discussion yet was

⁴¹ Hummelen, Y. Menke, N. Petovic, D. Sillé, D. Scholte, T. 'Towards a Method for Artists' Interviews Related to Conservation Problems of Modern and Contemporary Art,' Preprints of the ICOM-CC 12th Triennial Meeting, Lyon, France 29 Aug 3 Sept 1999, (London: James & James Ltd, 1999) 312-317
 Hummelen, Y, Sillé, D, Modern Art: Who Cares? An Interdisciplinary Research Project and International Symposium of the Conservation of Modern and Contemporary Art, 2nd ed. (London: Archetype Publications, 2004)

also time efficient. Each face to face interview lasted approximately one hour, although visiting a studio and viewing a jewellers work meant the entire event took at least 2 hours, if not more. Where possible, the interviews were conducted in the artist's studio because in these familiar surroundings the artists were at their greatest ease, and having their art, materials and equipment around them encouraged the conversation. To provide inspiration, a range of images, catalogues and monographs of the artist's work were used throughout. In a few cases, the author was able to take personally owned pieces, created by the jeweller. Not only did this allow a more meaningful dialogue, because the author could recount the sensation of wearing the jewellery, but a shared passion for jewellery was evident from both sides. Such enthusiasm relieved the atmosphere between strangers.

A list of questions was prepared in advance of all the interviews to provide a framework (see appendix 2). Similar topics were covered to enable comparison. In reality, the order of the questions was not adhered to strictly and the conversation was allowed to flow as naturally as possible. Some questions are direct, others deliberately open-ended. Perhaps, on reflection, some answers were inevitable given how the questions were fired but generally it is felt that the individual opinion of each artist is captured. I inevitably became more confident as time progressed and gained a clearer idea of the pertinent information. Earlier interviews tended to cast around for information a little more; later ones are more focussed. Obviously some artists suggested thoughts and themes I had not considered. I was a little disappointed that no artist had highly controversial views. Most accepted preservation as an interesting and useful idea. As will become clear in chapter 4 several artists had implicitly considered preservation as part of their artistic practice. My initial assumption that artists would have few perspectives on the subject was overturned.

All interviews were recorded on a digital recorder for later download. None of the artists apparently felt hindered by the presence of a recorder. Each artist was also agreeable for the recorded information to be used for academic purposes. The interviews are typed out rather than presented electronically, here, to encourage respect rather than rapid copying of the voices therein. The interview

transcripts are presented in full in appendix 6, Volume 2 of the thesis, in date order and provides a lasting record of the artists' thoughts and opinions during the period, 2003-2007.

The transcripts reflect the personality of each jeweller, sometimes enthusiastic and repetitive in their statements, others more reticent and had to have ideas drawn out of them by returning to a certain subject a number of times. Flexibility in asking questions was apt and necessary. Certainly the spoken word is less precise and more colloquial than written prose. This must be borne in mind when they are read. Sadly the nuances of tone, emotion, laughter that enhance and link a verbal exchange all but evaporate on a page.⁴²

The interviews provided an enormous quantity of primary and previously unrecorded data; too much if anything. The voices of the artists are quoted in every chapter as evidence of the ideas presented. Data that is not actually quoted or directly discussed in the text is by no means wasted. All parts of the testimonies contributed to the wider research and learning process, whether they made the final cut or not. Inevitably some ideas and thoughts did not prove pertinent ultimately. Some of unused themes can certainly fill subsequent research papers. Questions regarding the use of images and photography are the prime example, colour in plastics and its application in jewellery is another.

As the first detailed study of plastic artist jewellery within the context of preservation I aim to raise debate on this subject but also hope to engage other people with jewellery. Perhaps then the expressive potential of jewellery, which makes it engaging to me, will be recognised more widely.

⁴² Samuel R. 'Perils of the Transcript,' Oral History Reader, Eds. R. Perks & A. Thompson (London: Routledge, 1997) 389-392

Chapter 2

Innovation in Artist Jewellery - Building on Past Achievements with Plastics

Although innovators in their own discipline, early trailblazers of plastics for artist jewellery were building on existing widespread practices in aligned disciplines. By the 1960s, the possibilities of plastics were already considerably demonstrated in Fine Art, furniture, industrial design as well as costume jewellery and fashion arenas, amongst others. In this chapter I demonstrate that by contrast, artist jewellers were relatively late advocates of these materials. Moreover, although much creative energy and intellectual curiosity undoubtedly emerged from within the artist jewellery discipline, which questioned and challenged conventional practices and materials, I argue that the adoption of plastics by some artist jewellers was further encouraged by the widespread creative use of plastics more generally. Many influences are of a logistical and practical nature resulting from environs and alliances. Others are less tangible, concerned with perceived atmosphere and ambience the jewellers sought themselves. Following this discussion, the prevalent varieties of plastics in artist jewellery and an overall pattern of application are presented. Neither the dominant varieties of plastic nor their application has been traced or presented prior to this research.

Pioneering artist jewellers began to experiment with synthetic plastics during the 1960s. At the same time, artist jewellery became increasingly apparent as a discipline and, these factors are connected. By and large, artist jewellers emerged from a backdrop where more conventional jewellery-making materials and constructions using precious metals and gemstones prevailed. Those jewellers who presented their creations as art developed a trend in jewellery design, identified by Graham Hughes whilst he was curator of the collection of the Worshipful Company of Goldsmiths', a post he held until 1972. In his groundbreaking 1961 exhibition at Goldsmiths' Hall and subsequent 1963 book, *Modern Jewellery an International Survey 1890-1963*, Hughes perceived that appreciation of design in contemporary jewellery had gradually begun to supersede the importance of the, typically, precious component materials.¹ Meaning, or artistic intent, progressively became the focus of some jewellers'

¹ Hughes, G. *Modern Jewellery, an International Survey 1890-1963*, (London: Studio Books, 1963)

work, and additional materials were sought by them to push the boundaries of their speciality. Non-precious materials were embraced to assert some artists' desire to have their pieces appreciated by means other than precious material content. Plastics in particular, amongst other non-precious materials, such as paper, textiles and wood, presented new possibilities for jewellery with contemporary relevance. Rapidly becoming a ubiquitous material in the 1960s, plastics were increasingly encountered within everyday industrial and domestic spheres. Properties of plastics presented opportunities for a wider exploration of jewellery forms and its relation to the body.

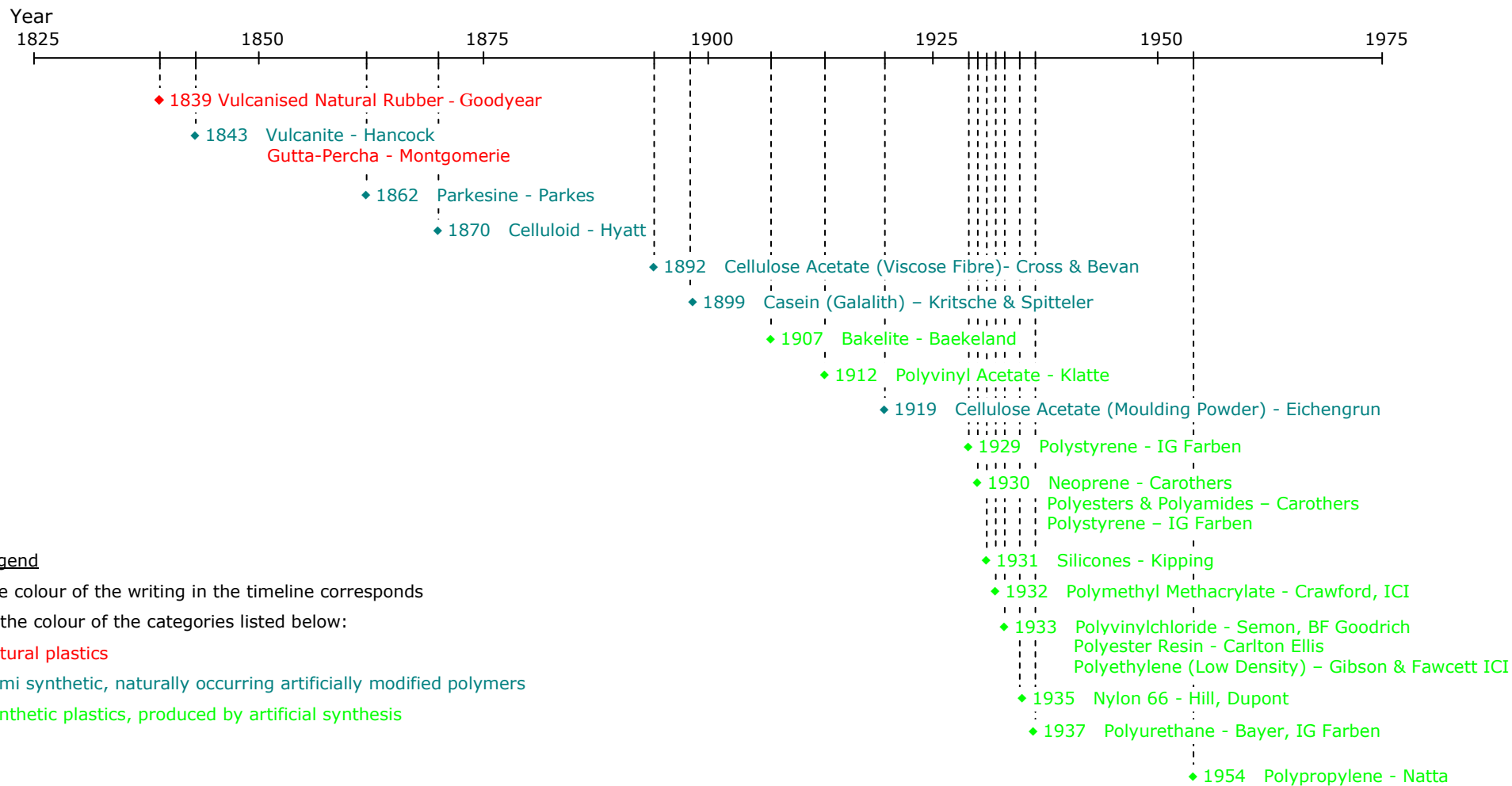
2.1 Plastics for Art and Design

Naturally occurring polymers, such as shellac, amber and rubber have been known and used for centuries for their appearance and ability to be shaped, they are hence plastic substances.² Groundbreaking advances in the development of modern plastic materials, however, occurred later: predominantly within the latter half of the nineteenth century and early decades of the twentieth century (see fig 1). Nineteenth century innovation enabled natural polymers such as rubber and cellulose to be modified, giving alternative mouldable materials. Fully synthesised plastics were generally developed or discovered after the prevalent semi-synthetic varieties. Synthetic plastics are entirely created within laboratory conditions from constituent parts rather than occurring naturally and being altered. Bakelite, the first synthetic plastic, was developed in the early 20th century between 1907-09. First notable uses of the material included electrical components and it also provided practical applications during World War 1. World War II, however, is credited as a significant catalyst in the development of the plastics industry to provide more servicable materials for equipment used in warfare.³ Subsequent to the war, the materials increasingly infused mainstream society with ever-wider applications and the development of a few additional key varieties. Now with the major classes of plastics well established, the present day plastics industry is characterised by continual refinement and an ever-increasing variety of specialised plastics derived from the considerable knowledge that now exists.

² <http://www.bouncing-balls.com/index2.htm> accessed 12th July 2008

³ Kaufman, Morris, *The First Century of Plastics Celluloid and its Sequel*, (London: The Plastics and Rubber Institute, 1969) 88

Fig 1. Timeline to show the Development of Some Important Plastics and Polymers, and their Developer



Legend

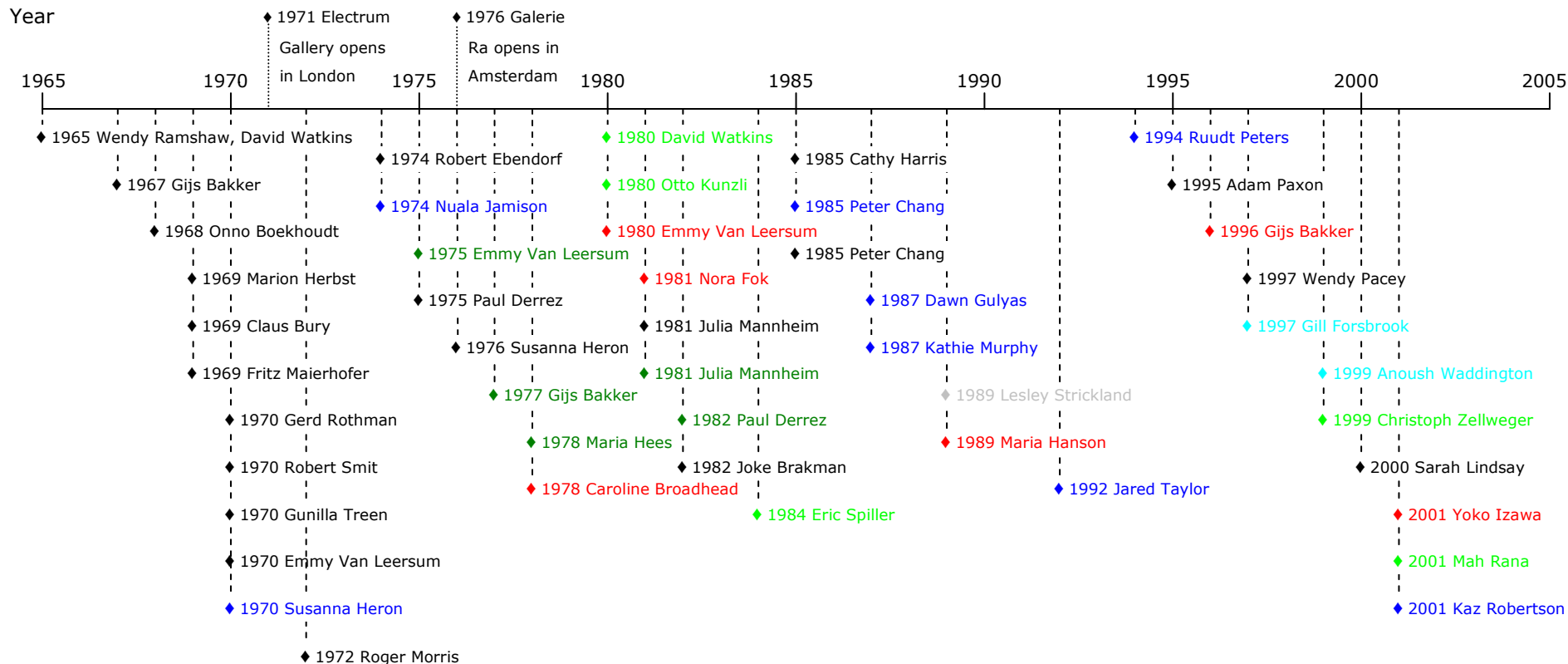
The colour of the writing in the timeline corresponds to the colour of the categories listed below:

Natural plastics

Semi synthetic, naturally occurring artificially modified polymers

Synthetic plastics, produced by artificial synthesis

Fig 2. Timeline to show the Application of Plastics by Some Important UK and European Artist Jewellers



Legend

The colour of the writing in the timeline corresponds to the colour of each material listed below.

- Cellulose acetate Nylon
- PMMA (acrylic) Polyester resin
- Polypropylene PVC
- Rubber

Creative and imaginative application of plastics is increasingly evident in both art and design fields, particularly from first half of the twentieth century. Russian constructivist sculptor Naum Gabo (1890-1977) was an early artistic exponent. From 1922, he emphasised illusions of space with sculptures in transparent cellulose acetate sheet. Gabo's attitude implies that any material holds artistic and creative potential. He expounded 'there is no limit to the variety of materials suitable for sculpture. If a sculptor sometimes prefers one material to another he does it only for the sake of its superior tractability. Our century has been enriched by the invention of many new materials.'⁴

Apparently in agreement with Gabo's stance on embracing new materials, in 1937 French designer Jean Prouvé (1901-1984) presented a chair at the *Union des Artistes Modernes* pavilion at the *Exposition Internationale de Arts et Techniques dans la Vie Moderne*, Paris constructed from sheet poly(methyl methacrylate) (PMMA).⁵ At that time it was a very new material and Prouvé exemplified how the properties of this ready-made sheet were ripe for exploration. Across the Atlantic, US cosmetics magnate Helena Rubenstein reputedly commissioned a PMMA bedroom suite in 1940 from Ladislav Medgyes, having realised its potential in cosmetics packaging.⁶ Cross pollination in the application of plastics in aligned areas had undeniably occurred here.

Artists also saw the potential of PMMA. Bratislava born sculptor, Arthur Fleischmann (1896-1990) adopted PMMA as his dominant medium. From 1949 until his death, he created reliefs and stand-alone compositions from PMMA blocks. He carved the material as if it were transparent stone, exploring its similarities and differences from conventional carving materials. Immediately after World War II, Imperial Chemical Industries (ICI) a major producer and developer of PMMA, actively encouraged Fleischmann's work by collaborating with him.⁷ By the 1940s Gabo had also turned to PMMA sheet, stringing nylon filament across it for his mature concepts on his theme of delineating space,

⁴ Gabo, Naum, 'Sculpture: Carving and Construction in Space,' Circle: International Survey of Constructive Art, ed. J.L. Martin, B. Nicholson, N. Gabo, (London: Faber and Faber, 1937) 105

⁵ Greenburg, Cara, Mid Century Modern Furniture of the 1950s, (London: Thames & Hudson, 1984) 75

Bony, Anne, Furniture and Interiors of the 1940s, (Paris: Flammarion, 2003) 146

⁶ DiNoto, Andrea, Art Plastic Designed for Living, (New York: Abbeville Press, 1971) 172

⁷ Arthur Fleischmann Foundation available at <http://myweb.tiscali.co.uk/dom.fleischmann/frrefe.html>
Accessed 17th July 2004

such as *Linear Construction no.1*, 1942-3 (T00191) held in the Tate Gallery, London.⁸

The burgeoning area of industrial design, producing everyday products such as tableware, also demonstrated some awareness of the imaginative possibilities of plastics. In 1954 British Industrial Plastics Limited (BIP) announced they endeavoured to bring 'art to an artless industry' thus striving for elegant everyday items, presumably in the midst of what they considered less proficient product design.⁹ From 1952, the company provided a free design service to customers of their amino plastics destined for moulding. A. H. Woodfull, who led this enterprise, had in fact been employed as an up-and-coming designer at BIP since 1931, after training in jewellery making and silversmithing. His ethos for working with plastics emphasises a wish to move forwards with the materials, continually demonstrating their potential. He explains 'a true plastician is always searching experimentally beyond the known limitations of our materials.'¹⁰ An attitude that also reflects Gabo's and others' stance to embrace the new capabilities offered by plastics. Woodfull and his team won the Horners Award for Plastics design on several occasions, suggesting his approach to the materials was accomplished.¹¹

For jewellery and accessories, plastic materials proved popular on a number of levels well before artist jewellers explored them in the 1960s. Masterful Art Nouveau jewellers notably took advantage of horn - a natural plastic material - in the early 20th century whilst the man-made varieties were in infancy.¹² Frequently, they combined horn with precious metals and gemstones. In contrast, less expensive jewellery was available around the same time, manufactured in batch production, using semi-synthetic plastics, such as cellulose nitrate and cellulose acetate, to imitate ivory and tortoiseshell.¹³

⁸ Pullen, D. 'Managing Change - The Conservation of Modern Plastic Sculptures Works by Naum Gabo and Tony Cragg,' Material Matters The Conservation of Modern Sculpture, ed. Jackie Heuman. (London: Tate Gallery Publishing, 1999) 104

⁹ Beresford-Evans, J. 'British Industrial Plastics Limited,' Design 60 December (1953): 15

¹⁰ Akhurst, Steve. 'A. H. 'Woody' Woodfull - an Appreciation,' Plastiquarian, 34, Summer (2005):12

¹¹ Akhurst, Steve. 'A. H. 'Woody' Woodfull - an Appreciation,' Plastiquarian, 34, Summer (2005):11

¹² Possémé, Evelyne, 'Georges Fouquet, Die Maison Fouquet, 1895-1936,' Die Fouquet 1860-1960: Schmuck-Künstler in Paris. (Paris: Musée des Arts Décoratifs/ Flammarion, 1984) 65

¹³ Cruse, Jen, The Comb, its History and Development. (London: Robert Hale, 2007)

Kelly, L. & Schiffer, N. Plastic Jewellery. (West Chester Pa: Schiffer Publishing, 1987)

Increasingly, however, plastics became recognised as materials in their own right, rather than as a material for imitations. Phenolic resins such as Bakelite and Catalin, were utilised for hand finished batch production costume jewellery fashioned from pre-cast shapes, popular in the USA and Europe throughout the 1930s-1950s (see figs 3 & 4). Such items, often highly colourful and decorative, were then more modestly priced and are today highly collectable.¹⁴



Fig 3. Bangles, 1st half 20th century (phenolic resin) author's collection

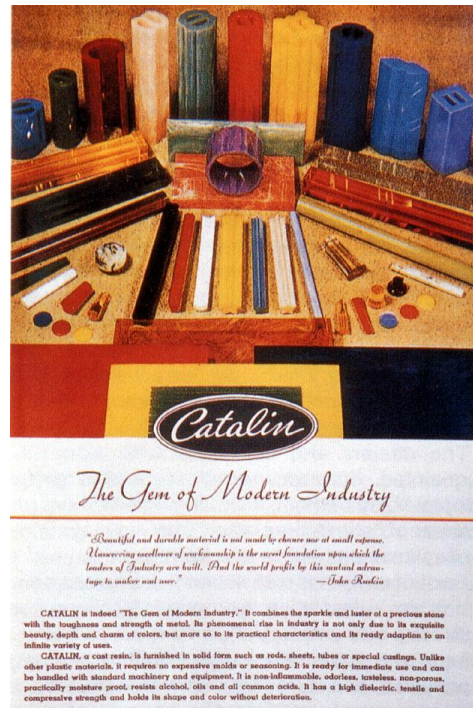


Fig 4. Advertisement to promote pre-moulded Catalin shapes used for the manufacture of goods such as accessories, e.g. buckles, bangles

Internationally influential French couturier Gabrielle (Coco) Chanel (1883-1971) explored the abilities of plastics for costume jewellery, particularly bangles, during the 1920-30s, when she presented accessories to match each new season's range of couture (see fig 5). 'Consciously fake' was Chanel's mantra, providing a subversive addition to a well-produced wardrobe, since she believed too great a show of ostentation ruined luxury.¹⁵ Chanel expertly and

¹⁴ Davidov, Corinne & Redington Dawes, Ginny, *The Bakelite Jewelry Book*, (New York: Abbeville Press, 1988)

¹⁵ De La Haye, Amy & Tobin, Shelley, *Chanel the Couturiere at Work*, (London: Victoria & Albert Museum, 1994)

Rennolds Milbank, Caroline, 'The Elements of Style: Chanel's Accessories' *Chanel* ed. Harold Koda & Andrew Bolton (New York: Yale University Press & The Metropolitan Museum of Art, 2005) 26-29

simultaneously invoked the creative and seditious capabilities of plastic materials that would be later echoed by some artists. Yet even then Chanel's couture rival across Place Vendome in Paris, Elsa Schiaparelli (1896-1973), took the use of plastics to an even greater artistic height. Schiaparelli's *Pagan* collection of 1938 included a collar necklace utilising a flat ring of semi-synthetic transparent cellulose acetate embellished with colourful three-dimensional metal beetles (see fig 6).¹⁶ When worn the beetles appear to be sitting directly around wearer's neck, an unusual and original form for jewellery at that time. Like other artists and designers Schiaparelli attributed her open-minded exploration of materials to her 'lack of regard for material values' whilst the commercial success of her plastic bangles implies that clients, beyond the creative nucleus, were ready to embrace this attitude as well.¹⁷



Fig 5. Chanel, *Bangle*, 1930s (resin, glass, metal)



Fig 6. Schiaparelli, *Necklace*, 1938 (cellulose acetate, metal)

The demands of war in 1939, credited as a catalyst for the worldwide plastics industry, also acted as a influence for plastics in costume jewellery.¹⁸ In the absence of European glass components the designer Frank Hess, working for American jewellery tycoon Miriam Haskell (1899-1981), was compelled to continue incorporating beans, seeds and leather that had been experimented

¹⁶ Blum, Dilys, E. *Shocking: The Art and Fashion of Elsa Schiaparelli*. (New Haven and London: Philadelphia Museum of Art & Yale University Press, 2003)

¹⁷ Schiaparelli, Elsa, *Shocking Life*. (London: J. M. Dent & Sons Ltd. 1954)

¹⁸ Kaufman, M. *The First Century of Plastics, Celluloid and its Sequel*. (London: The Plastics and Rubber Institute, 1963) 87

with during the 1930s but now attached to perforated plastic supports.¹⁹ Post war, plastics continued to proliferate in Haskell's still abundant output well into the period when artist jewellers satisfied curiosity with plastic (see fig 7).



Fig 7. Miriam Haskell, *Necklace*, c.1960s (unidentified plastic, glass, cotton thread) author's collection

Although Haskell was an American based firm the wares were sold in the UK. When post war affluence became a reality it was Europe where far reaching experiments with a wider range of plastics in couture and costume jewellery persisted, and where influential artist jewellers using plastics later resided. Couturiers Pierre Cardin (b.1922) and Andre Courregés (b.1923) both presented space age collections around 1964, incorporating flexible PVC as visors in overwhelmingly original hats. Meanwhile Paco Rabanne (b.1934) marketed a thriving range of jewellery accessories from Rhodoid®, cellulose acetate, reputedly selling 25,000 pairs of earrings alone (see fig 8). The brightly coloured and glittered discs of the lightweight and rigid material were secured together with metal rings and a range of dresses similarly manufactured in 1966 was showcased by Audrey Hepburn in the film *Two for the Road*, thereby further helping to thrust such unusual creations into mainstream consciousness.²⁰

¹⁹ Farneti Cera, Deanna, *The Jewels of Miriam Haskell*, (Milan: Idea Books, 1997) 32

²⁰ Kamitsis, Lydia, *Paco Rabanne*, (London: Thames & Hudson, 1999) 9



Fig 8. Paco Rabanne, *Necklace*, 1960s, (Rhodoid) author's collection

At the more affordable end of the clothing and accessories market, Mary Quant (b.1934), who lured the fashion hub to London when she opened her boutique *Bazaar* in 1955, forged an attitude toward personal adornment deliberately directed to younger generations who questioned longstanding convention. 'Youthquake' as the companies marketing termed it, provided further opportunities for exploration of materials and clothing that Schiaparelli and others had instigated.²¹ Even if direct influences of these couturiers were not transposed into plastic artist jewellery of the 1970s and 80s as David Ward, photographer and one time partner of jeweller Susanna Heron, claims, it is suggested that they imparted a common consciousness of plastic materials and their possibilities in creative spheres.²²

2.2 Artist Jewellers and Plastics

The energetic force of Quant is where artist jewellers unquestionably and tangibly link to the fashion industry and exemplifies how influences from a range of product design and decorative fashion fields may be channelled into another discipline. Burgeoning artist designers David Watkins (b.1940) and Wendy Ramshaw (b. 1939), were both very early pioneers in the use of plastics for artist jewellery. For a short while they produced fashion jewellery called *Optik Art Jewellery*. Constructed from screen-printed PMMA it was sold by Quant in the

²¹ Quant, Mary, Quant on Quant. (London: Pan Books, 1967) 190

²² Ward, David, 'Work in the Collection: a Broader Context and Related Activities,' The Jewellery Project. (London: Crafts Council, 1983) 10

mid-sixties (see fig 9).²³ Watkins openly acknowledges that he derived his idea and working practice from others already experienced with the material.

'The other thing I have always been faintly interested in but never used was acrylic. Although I experimented with it a little bit I didn't choose it for anything serious. I used it to make boxes to put small sculpture in. I introduced it into jewellery with Wendy Ramshaw again in the early to mid sixties when we started a company called Optik Art and I think through a friend in the graphics industry got involved with a printer who could print onto acrylic, which was a strange idea. I suppose they were doing it for signage, maybe it was a technique used for point of sales material and so on and we picked that up and used it to make jewellery'²⁴

Watkins in his parallel output as a sculptor also provides testament to the influence of other artists as well as engineering for stimulating use of fresh materials in his own work,

'in the beginning of the sixties with sculpture when resin and fibre glass was the great new wonder material and there was some extraordinary sculpture being made in this country...I think they were beginning to use it in the motor industry for plastic bodies and I used it for very colourful sculpture.'²⁵

Watkins ascended as a formative artist jeweller continually exploring varieties of plastic, becoming Professor of Goldsmithing, Silversmithing, Metalwork and Jewellery Department at the Royal College of Art, London from 1984 until 2006.²⁶ His roots are undeniably entwined with sculpture, engineering, and Fine Art. All these disciplines can demonstrate prior experience with plastics; artist jewellers further developed the potential already demonstrated with plastics for their own ends. Similarly jeweller Peter Chang (b.1940) acknowledges his

²³ Wendy Ramshaw Jewellery. (Bowness-on-Windermere: Blackwell the Arts and Crafts Trust, 2004) 18

Whiting, David, 'Modern Romance' Crafts 206 May/June (2007): 42-47

²⁴ David Watkins, personal interview, 18th July 2006

²⁵ David Watkins, personal interview, 18th July 2006

²⁶ Chadour-Sampson, Beatriz, David Watkins Artist in Jewellery, (Stuttgart: Arnoldsche Verlagsanstalt GmbH, 2008)

introduction to polyester resin, a dominant material in his colourful artworks, was derived from his earlier work as a sculptor.²⁷

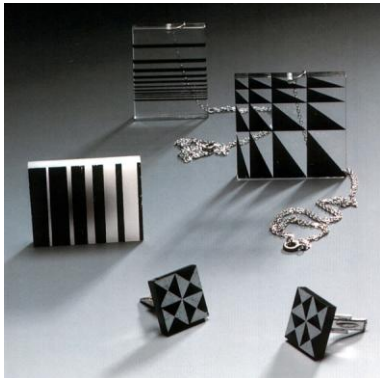


Fig 9. Wendy Ramshaw & David Watkins, *Optik Art Jewellery*, 1965 (screen printed PMMA)

Whilst Watkins still engaged with sculpture alongside jewellery, Ramshaw, who trained as a textile artist, concentrated entirely on jewellery, focussing her recent experience with PMMA into work she sought to have recognised as art rather than fashion. Her solo exhibition in 1970, at the *Pace Gallery*, London, which showcased rings mounted onto lathe turned PMMA mounts, marked the birth of her decisive trademark ringsets.²⁸ Importantly the Council of Industrial Design's periodical, *Design*, gave a rare appearance for jewellery in reviewing Ramshaw's exhibits.²⁹ No doubt this was testament to the aptitude she displayed with her chosen materials. The article, presented to design professionals in product design and engineering, exemplifies that impact can, in fact, transfer both ways. If early artist jewellers built on the practice of others with materials, they too were able to demonstrate to designers how plastics may be utilised with increasingly diverse approaches.

Around the period of Ramshaw's review, the journal *Design* continuously provided critique on the application and operation of plastics. Within the periodical *Architectural Review*, however, the commentator Paul Reilly incisively suggested the collective mindset of creative talent during the late 1960s that encouraged cross-currents.³⁰ He expounded

²⁷ Peter Chang, personal interview, 19th March 2004

²⁸ Chadour, Beatriz, *Rings Wendy Ramshaw*. (Wielsma Netherlands, 1994)

Bury, Shirley, 'The Evolution of an Artist Jeweller,' *Wendy Ramshaw a Retrospective Survey 1969-1981* (London: Victoria & Albert Museum, 1983)

²⁹ Best, Alastair, 'Much that Glisters is turned Silver,' *Design* 261 September (1970): 71-73

³⁰ Carr, Richard, 'International Plastics Review,' *Design* 197 May (1965): 52

'It has never been so tempting to swim with the tide. The current has not for some forty years been so strong or beguiling. Never before have so many active young minds been so concerned with design. Never before has there been so much freedom to spend, to experiment, to accept, or simply discard. Seldom before have established values been so rapidly or ruthlessly undermined.'³¹

Conceivably the mood described by Reilly infected emerging artist jewellers, encouraging them to expand their horizons.

Pioneering Austrian jeweller Fritz Maierhofer (b.1941) found that external influences were necessary for his development. He settled in London between 1967-1970, deliberately deserting what he considered a conservative Austrian society for a more spirited mesmeric environment.³² Whilst working for jeweller Andrew Grima (1921-2007) he began to revise his perception of jewellery, redirecting skills acquired via a goldsmithing apprenticeship. He began to search for original forms and meanings for jewellery, using PMMA with brass for the first time in 1971 as a result (see fig 10). Dutch jewellery artist, Paul Derrez (b.1950), also trained in goldsmithing, sought a more challenging environment in Amsterdam, whilst working for jeweller Hans Appenzeller (b.1949), eschewing his more provincial upbringing.³³ Derrez commenced with PMMA in 1975 and confesses 'you can see parallels' between jewellery and other disciplines of art and design.³⁴ Derrez also sought inspiration from predecessors, making innovative plastic art jewellery.

'Why Plastics is more than a Household Word,' *Design* 261 September (1970): 30-34

³¹ Reilly, Paul, 'The Challenge of Pop' *Architectural Review* October (1967): 255

³² O'Day, Deirdre, 'Fritz Maierhofer, Lecture to the Society of Jewellery Historians,' *Findings* Issue 27 March (2004): 5

Maierhofer, Fritz, 'Personal Statement,' www.fritz-maierhofer.com, accessed 20th January 2004
Koschatzky-Elias, Gabriela, *Fritz Maierhofer Jewellery and More!* (Stuttgart: Arnoldsche, 2006)

³³ Paul Derrez, personal interview, 13th November 2006

³⁴ Paul Derrez, personal interview, 13th November 2006



Fig 10. Fritz Maierhofer, *Bracelet*, 1974 (PMMA, gold)

With diverse activities and designs, by the latter half of the 20th century the plastics industry was intent on self-promotion to enlarge the industry even more. As a result opportunities for jewellers to discover the enticing properties of plastics were provided. These still tended to be linked with other design-related disciplines. In 1965, the centralised body the Council for Industrial Design recognised the Royal College of Art (RCA) as a potential focus for further developing the use of plastics for design. Believing greater exploration with plastics was still possible the Council declared:

'little has been done to make in plastics what is difficult to make in anything else, or to discover the true potentialities of the range of plastics now available...There are still too few designers in Britain who accept plastics as a valid group of materials ...What is really needed is a proper organisation to explore in greater depth the problems of designing in plastics, either at an establishment like the RCA or at a university.'³⁵

The RCA rose to the challenge, appointing the designer David Harman Powell as the first ICI tutor in Plastics in the late 1960s. Harman Powell was a onetime team member of A. H. Woodfull's department at BIP, possibly testament to Woodfull's progressive attitude for plastics design.³⁶ An exhibition titled *Prospex* was also presented by the RCA in 1967 in conjunction with designer Freda Koblick, and the plastics division of ICI, to showcase the all pervading PMMA.

³⁵ Carr, Richard, International Plastics Review, *Design* 197 May (1965): 52

³⁶ Harman Powell, David, 'A Half Century of Designing with Plastics,' *Plastiquarian* 36, Summer (2006): 14

Although shop signs dominated the exhibition, jewellery cut into abstract shapes from transparent red sheet by Suzanne Fry and Jacqueline Binns, was also present. The juxtaposition of ideas presented acted as a platform for possibilities within art and design fields.

German born Claus Bury (b.1946), an early artist jewellery pioneer with PMMA, perhaps encouraged or invited as a result of enhanced awareness of plastics at the RCA, tutored at the college during 1972. Some RCA jewellery students were working earnestly with plastics around the same time. Roger Morris (b.1940), became a major practitioner with PMMA using pieces of coloured acrylic laminated and pieced together and combined with precious metals, as was Bury (see fig 11). Today Morris contemplates that his discoveries with PMMA presented a refreshing lack of restrictions for artistic creation. He reflects 'experiments in the 1970's with acrylic gave a particular outlet for my strong sense of colour; combining gold and silver with a synthetic material gave me then a wonderful sense of design and artistic freedom.'³⁷



Fig 11. Roger Morris, *Ring with Box*, 1970s (PMMA, gold) Electrum Gallery, London

From the late 1970s and early 1980s a very practical reason for adopting plastic materials is evident. Again this is partly yet tangibly derived from other creative disciplines. During her 1980 residency at Newcastle Polytechnic, where she was based in the Industrial Design department, jeweller Julia Manheim (b.1949) was inspired to use PVC tubing. Such a material had not been available during her college experience. She relates 'they had lots of off-cuts and lots of equipment

³⁷ Morris, Roger, 'Personal Statement,' available at <http://www.rogermorris.eu/> accessed 23rd April 2007

that enabled me to use plastics...all these off-cuts were not much interest to anyone else but to make smaller things they were great.³⁸ After leaving the creative environment of a higher education department Manheim admitted she found it more difficult to obtain information about her materials. She acknowledges her search for materials continually involved 'finding things that were used for other things'.³⁹



Fig 12. Julia Manheim in 2003 wearing *Necklace*, 1980s (PVC), artist's collection

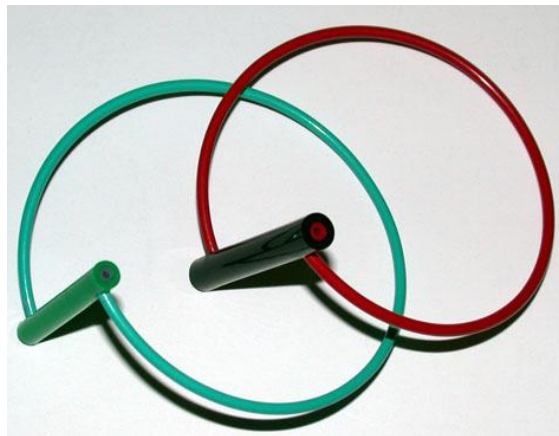


Fig 13. Julia Manheim, *Armpieces* 1980s (PVC, wire) artist's collection

Meanwhile, her contemporary Susanna Heron (b.1949), who studied concurrently at Central School of Art and Design, discovered that improved access to plastic materials whilst working in the USA engendered inspiration. Sarah Osborn, former jewellery curator of the Arnolfini Gallery, Bristol, also sensed Heron's work developed exponentially once she had reasonable access to a wider range of plastic materials during a 1978 sabbatical. Osborn reveals,

'materials have been a big problem. The USA is miles ahead of us in domestic plastics. There are retail shops that sell heaps of different sorts of vinyl, acetate, polythene, acrylic. They sell off-cuts too, so you can have a try-out before buying larger quantities. The collection of working ideas and prototypes Susanna brought back to England were based on the materials she found there.'⁴⁰

³⁸ Julia Manheim, personal interview, 24th November 2003

³⁹ Julia Manheim, personal interview, 24th November 2003

⁴⁰ Susanna Heron Bodywork Exhibition, (London: Crafts Council, 1980) 7

Heron, like Manheim, discovered offcuts used in other disciplines became appropriate material for jewellery making.

The role of galleries, crafts organisations and exhibitions must be characterised and acknowledged within this discussion because they have been ignored until now. Past narratives have noted jewellery exhibitions as progressive milestones and essential steps in the development and distribution of artist jewellery, which to a degree is correct.⁴¹ The Crafts Council, Scottish Arts Council and Crafts Advisory Committee in the UK were responsible for supporting and hosting provoking international jewellery exhibitions during the 1970s and 1980s. These included *Jewellery in Europe* (1975), *Fourways* (1977), *Jewellery Redefined* (1982), *New Departures in British Jewellery* (1983), and *The Jewellery Project* (1983).⁴² Galleries such as Arnolfini Gallery in Bristol (est. 1961), Galerie Sierraad (est.1969) in Amsterdam, Electrum Gallery (est. 1971) in London, Galerie Ra (est. 1976) in Amsterdam, Galerie am Graben in Vienna (est. 1972), and Galerie Spektrum in Munich (est. 1981), amongst others, championed progressive jewellery, enabling international cross-currents between European countries.⁴³ Such ventures were undeniably important for promoting and furthering the cause of plastic artist jewellery. Jeweller Kathie Murphy (b.1966) explicitly remembers *Jewellery Redefined* exhibition organised by the British Crafts Centre in 1982 as a defining influence on her decision to study jewellery making. Murphy cites wearable pieces by Susanna Heron (b.1949) as stand out and memorable objects.⁴⁴ Such exhibitions, however, were not the original impetus for the use of plastics; this came from the pioneering artists themselves.

⁴¹ Evans, James, 'The New Jewellery, A Documentational Account' *Designing Britain 1945-1975*. Available at <http://vads.ahds.ac.uk/learning/designingbritain/html/tnj.html> Accessed 23rd May 2004

⁴² Turner, Ralph, *Jewellery in Europe An Exhibition of Progressive Work*, The Scottish Arts Council, Crafts Advisory Committee, 1976.

Spiller, Eric, *New Departures in British Jewellery*, (London: Crafts Council, 1983)

The Jewellery Project, (London: British Crafts Centre, 1983)

Fuller, Peter, 'The Jewellery Project Review,' *Crafts* 63 July/August (1983): 45-46

Jewellery Redefined, (London: British Crafts Centre, 1982)

'Jewellery Redefined,' *Crafts* 58 September/ October (1982): 42-46

'Jewellery Redefined' *Craft Quarterly* Winter (1982): 14

⁴³ Evans, James, 'The New Jewellery, A Documentational Account' *Designing Britain 1945-1975*. Available at <http://vads.ahds.ac.uk/learning/designingbritain/html/tnj.html> Accessed 23rd May 2004

⁴⁴ Kathie Murphy, personal interview, 17th December 2003

Arguably, what the exhibitions and galleries achieved was to give access to new ideas and provide a public platform for internal debate within the artist jewellery discipline. Yet external stimuli for the use of plastics in jewellery derived from aligned disciplines are equally important. New initiatives were required to expand the burgeoning discipline of artist jewellery, plastics presented such opportunity. Related art and design fields consciously offered a backdrop of possibilities with plastics as well as a range of avenues to begin exploring.

2.3 Identifying the Prevalent Plastics in Artist Jewellery

The fact that plastics have now been established in artist jewellery for a number of decades, makes it possible to track their pattern of use. Given the broad range of plastics in existence by the 1960s, artist jewellers appeared to experiment initially with a limited selection. The collective repertoire broadens during the 1980s and 1990s as subsequent generations joined the profession and some existing jewellers began to experiment with further varieties. The chemistry and properties of the three prevalent varieties of plastics and their application in jewellery are discussed in the following chapter.

Recognised under the trade names Perspex™, Lucite™ and Plexiglas™, poly(methyl methacrylate) (PMMA), is identified as the earliest plastic investigated in earnest by artist jewellers during the mid 1960s. For a short time it was the principal plastic applied simultaneously by artist jewellers in the three leading countries in the discipline: the UK, Germany and the Netherlands. British artists Wendy Ramshaw and David Watkins were very early trailblazers, shortly followed by Dutch Gijs Bakker (b.1942) and Onno Boekhoudt (1944-2004), German Claus Bury, Austrian Fritz Maierhofer, and German Gerd Rothman (b.1941). PMMA emerges as the most prevalent plastic material used by artist jewellers to this day, enjoying sustained application. Endless creative curiosity is apparently provoked by its properties. Today it remains a recurring choice for newer generations of artist jewellers. Adam Paxon (b.1972) jointly won the Jerwood Applied Arts Prize for jewellery in 2007 for his innovative work with PMMA as his primary medium.⁴⁵ Watkins, Ramshaw and Bakker continue to return to PMMA for their mature work.

Quite different from PMMA, unsaturated polyester resin (UP) was explored as a suitable jewellery making material very shortly after the first experiments with PMMA. Around 1970 Susanna Heron began using it frequently. Heron's fellow student at Central School of Art and Design, London, Nuala Jamison (b.1948) also experimented early on with UP only to discover that 'it was very difficult to work with' finding its liquid form defiant and abandoning it in favour of more tractable PMMA with which she still works today.⁴⁶ Jamison's experience affirms that untried materials will suit some jewellers' ideas and not others. Yet whilst UP has never experienced the overwhelming popularity of PMMA, jewellery artists have consistently selected it during every decade since the 1970s. A 2002 publication by jeweller Kathie Murphy (b.1966), who works solely with UP, has continued to promote and widen its accessibility and appeal.⁴⁷

A third plastic that notably inspired imagination in artist jewellers from the late 1970s, but sometime after both PMMA and UP, is nylon (polyamide). Dutch artist Emmy Van Leersum (1930-1984) was attracted by its properties in sheet form around 1980, whilst the British jeweller Caroline Broadhead (b.1950) gave nylon filament her personal interpretation slightly earlier in 1978. Broadhead's student Nora Fok (b.1953) was equally inspired by nylon filament, introducing it to her work in 1981 and subsequently adopting it as her primary medium throughout her career to date.⁴⁸ Much like UP, nylon cannot rival PMMA in overall prominence, nevertheless, it has been steadily employed by jewellers, evidently still providing inspiration today. Three of the six shortlisted entrants of the 2007 Jerwood Applied Arts Prize for Jewellery, Nora Fok, Yuko Izawa (b.1966) and Susan Cross (b.1964), who won jointly with Paxon, apply nylon filament in their artworks.

Additional plastic materials in jewellery are discussed in this thesis but are not considered as significant as the three identified. Rubber, naturally forming as latex, as modified and synthetic varieties and, in almost infinite ready made and

⁴⁵ <http://www.jerwoodvisualarts.org/appliedarts/> available online, accessed 2nd July 2007

⁴⁶ Nuala Jamison, personal discussion, 21st March 2003.

⁴⁷ Murphy, Kathie, *Resin Jewellery*. (London: A & C Black, 2002)

Kathie Murphy, personal interview, 17th December 2003

⁴⁸ Nora Fok, correspondence by email, 17th August 2003

bespoke forms, is used regularly.⁴⁹ Despite this variety, rubber is almost always employed for its stretching flexibility. Of course there is considerable creativity within this and also some exceptions but generally, in the author's opinion, the use of rubber in jewellery has not reinvigorated or interpreted its defining characteristics in the manner that PMMA, UP and nylon have encouraged. Moreover, its often rapid deterioration has attracted a quantity of research by conservators, and it is arguably more predictable in behaviour than other plastics when coerced into jewellery forms. Rubber jewellery serves to enrich the study of plastics in jewellery, but does not define it.

Artist jewellers have consistently applied some plastics. Pioneering, yet other varieties appear only intermittently. Polyvinyl chloride (PVC) is one such example. In both its flexible plasticised and more rigid unplasticised varieties, PVC enjoyed a popularity surge with jewellers in the late 1970s and 1980s. Among the most prolific advocates was Dutch jeweller Gijs Bakker (b.1942), who laminated images between PVC sheets, with a prolific output from 1979 onwards. British artist Julia Manheim (b.1949) meanwhile took PVC-coated wire to another level in 1980 resulting in her *WireWear* collection of body pieces delineating the human form.⁵⁰ Yet PVC has not sustained enormous interest since the 1980s and is not regularly encountered in more recent work. Hence PVC cannot claim to have infused artist jewellery.

Over time the variety of plastics employed has steadily increased, as has the number of artist jewellers selecting these materials. In the early twenty-first century the artist jewellery discipline, like the plastics industry itself, demonstrates the largest array to date of applications and exponents. Notably, the vast majority selected were and remain fully synthetic varieties (see fig 2). Certainly artist jewellers select materials according to physical and also conceptual possibilities. Cellulose acetate notwithstanding, entirely manufactured polymeric materials seemingly present favourable qualities for artistic exploration in jewellery. Selection for jewellery is undoubtedly partly based upon the fact that the materials may be manipulated in artists' studios without vast

⁴⁹ Rogerson, C. & Beighton, J. 'Overblown and Stretching Belief. Implications of the Brief Life of Rubber Components in the mima Jewellery Collection', Oral presentation at conference [Plastics: Looking at the Future Learning from the Past](#) Victoria & Albert Museum, 23rd-25th May 2007

⁵⁰ Julia Manheim, personal interview, 24th November 2003
Dormer, Peter, 'Live Wire,' [Crafts](#) 62 May/June (1982): 23-4

quantities of specialist equipment. Sheet and rod forms of PMMA, and nylon sheet and filament are appropriate for such use, being easily cut due to the scale of manufactured shapes available for purchase. Heat forming is also readily achieved using non-technical equipment. Simple, even second-hand, ovens, for example, are sufficient to heat PMMA to enable shaping, a result of its thermoplasticity.⁵¹ UP, meanwhile, may be moulded at room temperature and pressure making this a possible procedure in an artist studio. The scale of all these plastics compares with the human body making them a practical as well as conceptual possibility.

Further physical properties of plastics have inevitably exerted an influence over their selection by artists for jewellery. The possibility of colour is the most prevalent desirable characteristic of plastic materials identified by the artist jewellers interviewed, whether they worked with plastics during the 1970s, 1980s and up to 2007.⁵² Colour, states Adam Paxon, 'links to desire' we can be attracted to things solely by their colour and the often bright hues he uses in his work are deliberately employed for that effect.⁵³ Many types of plastic materials offer selections of colour less available to more conventional jewellery materials. Precious metals such as gold, platinum and silver provide predictable and recognisable colours with differing alloys and the oxidation of silver hues can be altered only to a limited extent. When combined with gemstones more varied colours can be incorporated.⁵⁴ Enamelling, like metals, has provided colour for centuries, but individual coloured areas necessarily surrounded by metal frameworks determines they are relatively small.⁵⁵ Paper, textile and anodised titanium can all offer colour too, but they do not have the structural qualities of plastics, and anodised titanium only provides surface colour. When using plastic,

Julia Manheim WireWear (London: Crafts Council, Northern Arts, n.d.)

⁵¹ Adam Paxon, personal interview, 19th March 2004

⁵² Every jeweller interviewed in the course of the research cited colour as a reason for selecting plastics. Please see interview transcripts volume 2 of the thesis.

⁵³ Adam Paxon, personal interview, 19th March 2004

⁵⁴ Phillips, Clare, Jewelry From Antiquity to the Present, (London: Thames & Hudson, 1997) 137
Keene, Manuel, Treasury of the World, Jewelled Arts of India in the Age of the Mughals, (London: Thames and Hudson, 2001) 81

⁵⁵ Possémé, Evelyne, 'Georges Fouquet, Die Maison Fouquet, 1895-1936' Die Fouquet 1860-1960: Schmuck-Künstler in Paris (Paris: Musée des Arts Décoratifs/ Flammarion, 1984) 62

the size of the coloured area is far less limited and the wide range of colour available is evidently alluring, be it bright or muted colours that are desired.⁵⁶

Another practical, as well as aesthetic, factor in selecting plastics is the relative lighter weight of plastics by comparison with more conventional jewellery materials, such as metals. With lighter weight, larger more dramatic forms become viable. A greater exploration of the jewellery form and its relationship with the human body is enabled. Peter Chang's oversized and brightly coloured bangles are testament to both this factor and the possibilities of colour with plastics.⁵⁷

Finally, the relative low purchase cost of plastics is an undeniable factor in the selection of plastics by artist jewellers. Jeweller Lesley Strickland (b.1955) recounts that, as a student in the 1970s, it was the high cost of silver that encouraged her to start experimenting with plastics simply because they were cheaper and therefore more attainable.⁵⁸ Creating with plastics, particularly cellulose acetate, has characterised Strickland's work ever since. Jivan Astfalck (b.1960) believes that creating with plastics is faster moving since their low cost enables more work to be developed and discarded if necessary.⁵⁹ A more prolific and possibly experimental approach is presumably then possible.

Application of plastics in artist jewellery is set to continue. Newer generations of jewellers are now actively encouraged to encounter plastics during their training, ensuring its continued presence. Caroline Broadhead, a first generation jeweller in plastics at Middlesex University, has tutored the now established jewellers, Nora Fok, Kathie Murphy, and Adam Paxon who are current major exponents of nylon, UP and PMMA respectively. Similarly Watkins' 25 year academic tenure at the RCA led him to instruct numerous jewellers working with plastics, including Christoph Zellweger (b.1962) with latex and polystyrene; Dawn Gulyas (b.1963) with UP; Kayo Saito (b.1969) with polyester fibre; Yoko Izawa (b.1966) with

⁵⁶ Peter Chang, personal interview, 19th March 2004

Adam Paxon, personal interview, 19th March 2004

Lesley Strickland, personal interview, 12th January 2004

Christoph Zellweger, personal interview, 9th November 2003

⁵⁷ Peter Chang, personal interview, 19th March 2004

⁵⁸ Lesley Strickland, personal interview, 12th January 2004

⁵⁹ Jivan Astfalck, personal interview, 18th June 2005

nylon; and Sarah Lindsay (b.1981) with PMMA, to name a small selection.⁶⁰ These younger generations can now draw from within their own tradition of artist jewellery and find inspiration from the early trailblazers, as well as external influences of their own.

Continual innovation with plastics is essential for the discipline to develop. For the first generation, who yearned for and witnessed the adoption of plastics in jewellery, the current status quo lacks the cutting edge ambience they experienced. Broadhead believes that 'it's not as exciting as it was, it's much harder to do something new now' by comparison with late 1970s and early 1980s.⁶¹ For artist jewellers tough creative challenges remain. Conservators' challenges with plastic jewellery, however, are less well acknowledged and understood. Assessing the care and treatment requirements for plastic jewellery demands an understanding of both why and how materials are selected and applied. To help bring about the preservation of plastic artist jewellery, the manner by which jewellers have applied and adapted the properties of PMMA, nylon and UP for their unique perspectives forms the subject of the next chapter.

⁶⁰ *David Watkins and his Students* exhibition at *Contemporary Applied Arts*, London , 16 Sept – 29 Oct 2005, a selection of Watkin's former students work was displayed.

<http://www.caa.org.uk/exhibitions/exhibition-archive/2005/david-watkins-and-his-students.html>

Accessed 23rd March 2006

⁶¹ Personal interview, Caroline Broadhead, 25th November 2003

Chapter 3

Artist Jewellers Pushing the Boundaries of Plastics

The consistency with which artist jewellers have selected some plastics as an artistic material since the 1960s reveals that these materials embody desirable physical properties, which may be translated into artistic meaning. Plastics have, and still do, encourage development of the artist jewellery field. Working with plastics to exploit their artistic potential, however, requires knowledge of individual behaviour and properties of the materials. As veteran jeweller David Watkins (b.1940) explains 'with different plastics you have to use different technology.'¹ Not unusually artist jewellers employ empirical rather than formal scientific methods to discover the capabilities of materials in which they see potential. Pioneering jeweller, Caroline Broadhead (b.1950), who explored nylon filament during 1978-1983, learnt how the material permitted her to express ideas through practical application.² Today, she describes her discovery of its properties as 'a happy accident.'³ Her statement insinuates that although she sensed enough potential in nylon to experiment with it, she did not initially realise how its properties may ultimately manifest themselves in her artworks.

In the following chapter I introduce the properties of some plastics and analyse how jewellers apply them for expression. Three plastics are discussed; each has been consistently applied in artist jewellery from the 1960s and 1970s through to the present day. Poly(methyl methacrylate) (PMMA) is most notably explored in artist jewellery for the optical qualities it embodies; nylon for its strength and flexibility as filament; and polyester resin (UP) is striking for its ability to be moulded, in its liquid form, into diverse shapes.

The properties a jewellery artist may detect in a particular plastic material are, more than likely, similar to those applied in industrial applications for that material. References to more familiar applications are certainly evident in some plastic jewellery artworks. Yet to explore new forms of jewellery, artists apply plastics in original ways, both physically and conceptually. Individual

¹ David Watkins, personal interview, 18th July 2006

² Houston, J. *Caroline Broadhead Jewellery in Studio*, (London: Bellew Publishing, 1990) 32

³ Caroline Broadhead, personal interview, 25th November 2003

interpretation and construction methods often carry the plastics beyond their known applications, generally and within artist jewellery. To communicate meaning, for example, an artist may choose to accentuate and feature a characteristic material property over and above others it embodies. Yet using a material in an original manner may well lead to unforeseen outcomes, particularly on the part of the jeweller. Heavy reliance upon certain qualities, for example, could render jewellery exposed to change because loss of or alteration to those features may leave the jewellery less able to convey meaning. Such an effect is not entirely lost on some jewellers. In interview, artist jeweller, Watkins acknowledged that the use of materials about which artists have generally empirical understanding can cause problems for their future longevity.⁴ He insinuates that artists, including him, may apply their materials without understanding long-term outcomes.

Yet before judgements can be made regarding the impact of change on jewellery artworks, it is necessary to understand what properties plastics can offer jewellers and for what ends. How do artists expect and require plastic materials to behave in order for their jewellery to communicate artistic intent?

⁴ David Watkins, personal interview, 18th July 2006

3.1 Poly (methyl methacrylate) PMMA – A Technical Summary

Poly (methyl methacrylate) (PMMA) was first developed in the forms that are familiar today in 1932, by Imperial Chemical Industries (ICI), UK.⁵ More familiar by the dominant trade names Perspex™ and Lucite™, PMMA is produced in sheet, rod and tube form, and also as a moulding resin.

Production of PMMA involves addition polymerisation of the monomer methyl methacrylate (MMA), formed from the raw materials acetone, hydrocyanic acid, methanol and sulphuric acid.⁶ Addition polymerisation is the linking together of molecules incorporating double chemical bonds, known as unsaturated monomers. The extra, internal, bonds, caused by the double bonds, break and link up with other monomers forming a repeating chain (see fig 14).

Polymerisation of MMA is a complete process, without intermediate stages and by products, and an initiator is usually added to regulate the reaction. It may be completed by a number of routes.

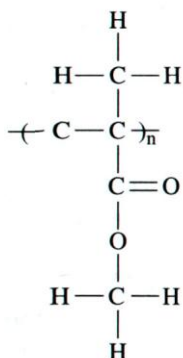


Fig 14. Diagrammatic representation of a repeat unit in a PMMA polymer chain. The repeat units are joined onto the carbon molecules that make up the backbone of the polymer chain, indicated by brackets.

Cast sheet, rod and tube are created through bulk polymerisation in moulds. To create a sheet, the monomer and its initiator are dispensed into a sealed container of polished glass, dictating the shape and thickness of the final product. PMMA resin produced by suspension polymerisation is used for extruding sheet, rod and tube, and also for injection moulding. The monomer and initiator are added to water, breaking into small droplets then polymerising into pellets, for subsequent processing. Cast PMMA products have a higher

⁵ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 246

⁶ Brydson, J. A. Plastics Materials, Sixth Edition, (London: Butterworth Heinemann, 1995) 387

molecular weight (longer polymer chains) than extruded PMMA since small pellets prevents very long polymer chains developing. Although cast and extruded products have slightly differing properties such as strength and uniformity of sheet thickness, which are understood by industry, these differences have less impact on small scale jewellery artworks. No jeweller interviewed consciously distinguished between the types.

A key factor governing the behaviour of PMMA is the linear configuration of polymer chains and their stiff, bulky side chains extending from alternate sides of the carbon backbone. PMMA is classed as thermoplastic because repeated cycles of heating and cooling to shape and reshape the material are possible. Above the glass transition temperature, about 104°C , any motion and flexibility within the chains, encouraged by thermal vibrations, is limited, because chain entanglement prohibits movement.⁷ PMMA becomes rubbery and soft when heated but remains so until its decomposition temperature of around 185°C and it does not flow. Hence, usefully for jewellers, the rubbery state on heating allows PMMA to be shaped and stretched (see fig 15). Furthermore, solvents, adhesives and cements specifically devised for joining PMMA components are available meaning that a number of parts may be united.⁸



Fig 15. Dean Graves, Director, Zone Creations, heat forming PMMA to demonstrate the possibilities of plastics for jewellery at the Royal College of Art, London, 14-15th March 2005

⁷ Estevez, J. M. J. & Powell, D. C. Manipulation of Thermoplastic Sheet, Rod and Tube, (London: The Plastics Institute, 1960) 45

⁸ 'Tensol Cements', Information Service Note 1123, (Welwyn Garden City: ICI Plastics Division, 1964)

Extensively intertwined polymer chains also make PMMA one of the hardest thermoplastic resins in production. Accordingly the elastic modulus is stated to be around 3000 N/mm², which makes it one of the stiffest thermoplastics as well (see appendix 1).⁹ Molecular entanglement also gives PMMA relatively high tensile strength (see appendix 3).

The specific gravity or density of the material is given as 1.19 g/cm³ and, when compared with other polymers, is a middling value (see appendix 3).¹⁰ PMMA is, however, much less dense than traditional jewellery making materials, such as gold, so offers scope for larger scale jewellery.

Despite its hardness and toughness the surface of PMMA has poor resistance to scratches and surface marks. Such defects tend to be obvious because, once cast or extruded, the material has a high surface gloss, which can be easily enhanced by buffing. The visual qualities of PMMA have prompted unofficial names such as 'acrylic glass' because the material has optical clarity and transparency.¹¹ Horn, reflecting on its properties in 1960, just before jewellers experimented with it, effused that PMMA has 'brilliance and clarity' and a 'gem like' quality.¹² With up to 92% light transmittance when free from fillers, PMMA has superior clarity when compared with many plastic materials; again a consequence of the amorphous structure of its chains.¹³ The clarity is dependent upon a constant refractive index throughout. In addition, PMMA has total internal reflection of light which enables light to travel through the material. Light is transmitted following a zig-zag path, from one end of a solid rod or sheet to the other side with little to no loss, even around bends.¹⁴

⁹ Engel, Lothar et al An Atlas of Polymer Damage Surface Examination by Scanning Electron Microscope, Trans. M. S. Welling. (London: Wolfe Publishing Ltd, 1981)

The exact value of the modulus for PMMA will depend on the molecular weight, temperature and moisture content of the tested sample. The figure given is a point of reference only.

¹⁰ Engel, Lothar et al An Atlas of Polymer Damage Surface Examination by Scanning Electron Microscope, Trans. M. S. Welling. (London: Wolfe Publishing Ltd, 1981)

¹¹ Kaufman, M. The First Century of Plastics Celluloid and its Sequel, (London: The Plastics and Rubber Institute, 1963) 87

¹² Horn, M. Acrylic Resins, Reinhold Plastics Applications Series. (New York: Reinhold Publishing Corporation, 1960) 33

¹³ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 246

¹⁴ Brydson, J. A. Plastics Materials, Sixth Edition. (London: Butterworth Heinemann, 1995) 392

Transparent colours are added to cast and extruded PMMA by mixing pigments with the monomer prior to polymerisation; today an extensive range of colour is available. Opaque shades of colour are created in PMMA by adding a proportion of opaque white pigment to a coloured pigment and mixing this with a plasticiser, added prior to polymerisation. Moulding resins are, however, normally coloured after polymerisation.¹⁵ Surface dyeing of acrylic sheet, rod and tube using a dye bath is also possible, offering almost endless possibilities of colour.¹⁶

Widespread industrial applications tend to employ the visual properties of PMMA. Shatterproof windows, decorative products such as point of sale stands, display cases and fascia signs for retail, also design arenas such as furniture making and Fine Art are commonplace (see fig 16).¹⁷



Fig 16. Polishing PMMA cockpit hoods for World War II fighter planes¹⁸

¹⁵ Colin Williamson, Director Smile Plastics, personal discussion, 26th January 2005

¹⁶ The Colouring of Plastics, (Imperial Chemical Industries Limited Dyestuffs Division, 1960) 96

¹⁷ Hazelwood, C. M. 'Thermoforming', Postprints from Plastics in Furniture 19-20 November 1970, (London: Plastics Institute, 1970)

'Perspex' Acrylic Sheet for Signs and Facias, Information Service note 793. (Welwyn Garden City: Imperial Chemical Industries Ltd Plastics Division, 1961)

Tilley, J.P. 'Versatility of Acrylics, 1934-1980', The Development of Plastics, Ed. S. Mossman & P. Morris. (Cambridge: The Royal Society of Chemistry, 1994) 95

Arghir, Anca. Transparency into Art: Acrylic Glass as a Medium, (Cologne: Wienand Verlag, 1988)

Donovan, J. S. 'Plastics in Glazing', British Plastics, March (1971): 79-83

¹⁸ Harness, Alex, The Story of Perspex, (Loughborough: Plastics Processing Industry Training Board, n.d.) 5

3.2 Creating the Look – PMMA Applied in Artist Jewellery

Visual characteristics of PMMA are equally applied in artist jewellery. An expert in the use of PMMA for jewellery frequently manipulates the material to provoke a reaction in wearers and observers via its optical qualities. British artist Gunilla Treen (b.1949), who worked with PMMA from the early 1970s, was an early exponent. She demonstrated, within her necklaces, brooches and bangles, how responses to artworks could be guided. Treen's work comprises overlaid flat pieces of coloured and uncoloured transparent PMMA sheet, interspersed with opaque layers. Enclosed interior voids are created between the sheets, which contain movable non-plastic shapes (see fig 17). When the jewellery lies dormant so do the interior shapes, they only move during handling or wearing. The kinetic elements, are not immediately apparent, but are subsequently discovered. Treen's desire is that 'all the pieces should be slowly discovered through close examination, new elements appearing and so surprising the viewer.'¹⁹



Fig 17. Gunilla Treen, *Three Circular Brooches*, 1974 (PMMA, silver, titanium, mother-of-pearl) diameter 50mm, Crafts Council J16 a,b,c

With the detection of the kinetic elements the viewer is deliberately encouraged to observe the artwork closely, leading to an appreciation that provides amusement. Applied Art critic Peter Dormer described Treen as 'innovatory' because in the early 1970s, when she first started making PMMA jewellery, a

¹⁹ Crafts Council Photostore available at

<http://www.photostore.org.uk/seCVPG.aspx?MID=511&TYPE=MAKER> accessed 4th January 2006

demonstrative connection between the maker though their jewellery to others was uncommon.²⁰ Furthermore, without transparency of the material and a smooth shiny surface the interior of the work could not be seen (see fig 18).

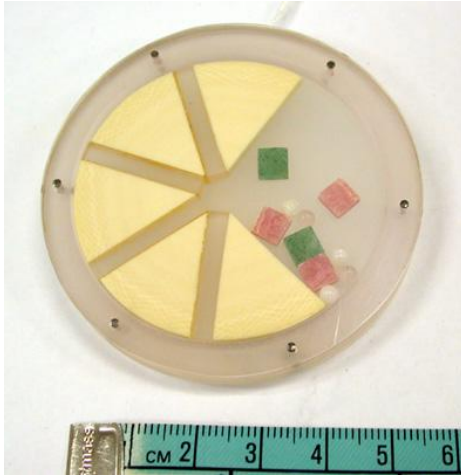


Fig 18. Gunilla Treen, *Circular Brooch*, 1974 (PMMA, silver, ivory, opal, rose quartz, jade) diameter 62mm, Crafts Council J91.

Design historian Enzo Mancini regards transparent objects as having 'three different personalities' or intrinsic interrelated properties. 'Functional' to admit light; 'information related' revealing data that would not be seen with an opaque material and 'aesthetic and emotional,' since the interplay of visibility and light offers the potential for evocative expression in design.²¹ Treen's artistic vision fuses all 'three personalities', Mancini suggests, and each is gainfully employed. The transparency of her jewellery functions to reveal the internal data, which in turn invokes a response. Without transparency, however, each connected character would be suppressed. Losing the ability to admit light and vision via scratches and surface blemishes would prevent the information being conveyed to the viewer.

Not only is Treen's interpretation of jewellery notably original for the period but her use of an innovative jewellery-making material is as well. Her exploitation of PMMA may be interpreted as a contemporary viewing window through which older jewellery conventions are simultaneously observed and reinterpreted. Treen's kinetic elements comprise a variety of more established jewellery

²⁰ Dormer, Peter & Turner, Ralph, *The New Jewelry Trends & Traditions*, revised edition. (London: Thames & Hudson, 1994) 13

²¹ Manzini, Enzo, *The Material of Invention Materials and Design*, (Cambridge, Massachusetts: The MIT Press, 1989) 165

materials, such as silver and ivory. The PMMA framework within which they are held represents newer practice, which she helped pioneer in the 1970s.²² The transparent quality of PMMA is the device that enables her to embrace contemporary ideas of jewellery making, and also shape and update the perception of those who handle and wear it.

Whilst Treen applies transparency to invoke intimacy with jewellery, another pioneer with PMMA, Wendy Ramshaw (b.1939), accentuates its optical qualities to promote jewellery away from the body, yet still inviting the wearer to participate. Ramshaw, who started working with the material almost simultaneously with Treen, realises that for her 'jewellery is pure aesthetics.'²³ Ramshaw creates ring sets from precious metals supported on vertical stands that are regularly created from PMMA.²⁴ The rings are intended to be worn in numerous configurations since the rings may be arranged as the wearer chooses. More unusually for jewellery, the ring sets also function as changeable artwork away from the body. The stands provide a location for a changeable sculptural presentation of the ring sets when they are not worn. Ramshaw demands that her work gains greater attention than other jewellery pieces because it is specifically designed to be viewed as stand alone artwork and as well as art for the body. Although not jewellery themselves, the stands are intrinsic to the function of the ring sets and are designed to complement and enhance the appearance of the rings.

Ramshaw adopts geometric forms for both rings and stands, to which the working properties and visual qualities of PMMA are suited. She explains 'my work is based upon the manipulation of a series of very simple abstract shapes which can come together in varying combinations, scales and relationships.'²⁵ For stands she creates sharp profiles conveying a 'hard edge machine aesthetic' as Ramshaw summarises it.²⁶ A lathe is used to carve the PMMA rods, giving the precision of cut that the artist wishes, and was original use of technology for

²² Treen, Gunilla, 'Notes' The Jewellery of Gunilla Treen A Ten Year View, (Bristol: Arnolfini Gallery, 1980) np

²³ Chadour, Anna Beatriz, Wendy Ramshaw Rings, (Netherlands: Wielsma, 1994) 9

²⁴ Wendy Ramshaw has used metals for stands as well but PMMA recurs more than other materials.

²⁵ Quoted by Lucie Smith, Edward, Wendy Ramshaw/ David Watkins Schmuck/Jewellery. (Pforzheim: Schmuckmuseum, 1987) 54

²⁶ Ramshaw Wendy, 'Wendy Ramshaw Artist Jeweller,' Jewellery Studies 4 (1990): 76

jewellery making with plastics when she began such work in the 1970s.²⁷ Jewellery historian Beatriz Chadour proposes that Ramshaw's vision for jewellery and her chosen materials reflect 'the harmonising of technology and ornament.'²⁸ *Ring set*, 1992, standing 16cm high, for example, has precise horizontal rings incised around the PMMA stand before it extends into more structural circular platforms and sharp turrets at its apex (see fig 19). The inherent hardness of the material is crucial to withstand the machining to produce an exact cut. Ramshaw employs the structural qualities of PMMA enabling cutting and also its capacity for surface marking to create a precise appearance for the stand. Whereas Treen constructed a literal and metaphorical reflection on jewellery conventions in the early 1970s, Ramshaw advocates that a broadening of the jewellery discipline can encompass machines and technology, alongside handcrafted tradition. Rings, supported by the stand, represent the latter because they are created using more familiar jewellery making methods. The clear-cut appearance of the PMMA ring stands conveys the exactness of the lathe in the structure of the finished piece. Visual appearance of the machined PMMA is therefore as important to Ramshaw as it was to Treen, for delivering meaning.



Fig 19. Wendy Ramshaw, *Ring Set*, 1992 (gold, moonstone, enamel, PMMA, resin) stand height 160mm, private collection

²⁷ Best, Alastair, 'Much that Glistens is Turned Silver,' *Design* 261 September (1970): 73

²⁸ Chadour, Anna Beatriz, *Wendy Ramshaw Rings*, (Netherlands: Wielsma, 1994) 9

Ramshaw celebrates PMMA as an unconventional material within her discipline. Like Treen, Ramshaw demonstrates how it can connect with the preceding traditions adding to the repertoire of materials. Whereas Treen enveloped more traditional materials by newer PMMA in her work, Ramshaw places them side by side as equals. In a different stance again, jeweller Susanna Heron (b.1949), who first started experimenting with PMMA a few years after Ramshaw and Treen, rejected other jewellery-making materials altogether and presents PMMA unaccompanied.

Heron's interpretation of PMMA, however, once more exploits its properties for visual effect because she aimed to explore 'translucency, light and colour'.²⁹ Heron's *Bodywork* multiples, first developed during a year long study trip to USA in 1978, were produced into the early 1980s.³⁰ Each of her neckpieces is constructed from one piece of PMMA cut and shaped from sheet, to form 3-dimensional asymmetrical curves. Designed to be 'comfortable and strong', the inflexible quality of the material ensures that the neckpieces sit firmly and rigidly around the neck (see fig 20).³¹ Heron has reinterpreted and updated the ancient Celtic torc style of necklace with a fresh material.³²

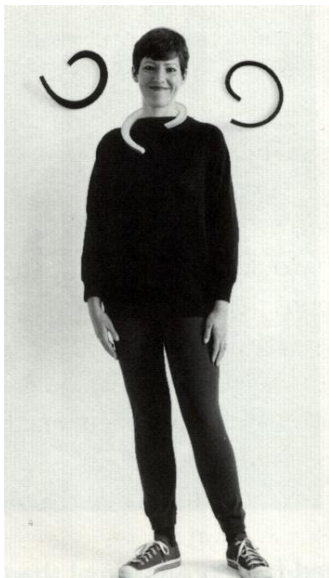


Fig 20. Susanna Heron (pictured) *Curved Neckpiece*, 1977 (PMMA, acrylic paint) diameter 180mm

²⁹ Osborn, Sarah, [Susanna Heron Bodywork Exhibition](#). (London: Crafts Council Gallery, 1980) 14

³⁰ Flowers, Angela, 'Susanna Heron: Bodywork,' [Crafts](#) 46 September/ October (1980): 53

³¹ Osborn, Sarah, [Susanna Heron Bodywork Exhibition](#). (London: Crafts Council Gallery, 1980) 10

³² Johns, Catherine, [Jewellery in Roman Britain, Celtic and Classical Traditions](#), (London: Routledge 1996)

Heron detected and exploited the ability of light to travel through PMMA, a quality that enables connections between Heron's adornments and the human physique to be accentuated. The narrow internal curve of *Neckpiece*, 1980, made from uncoloured transparent PMMA sheet, approximately 5 mm thick, is spray painted yellow (see figs 21 & 22).³³ The colour is reflected through the complex curve and glimpses of the colour are caught through the material as it is moved and turned. Additionally the yellow colour combines with the bluish hue of the material making the short ends of the neckpiece and the outer longest curve appear green or blue when viewed at particular angles.



Fig 21. Susanna Heron, *Neckpiece*, 1980, (PMMA, acrylic(?) paint) diameter 274mm, mima, Middlesbrough, J0002, viewed from above

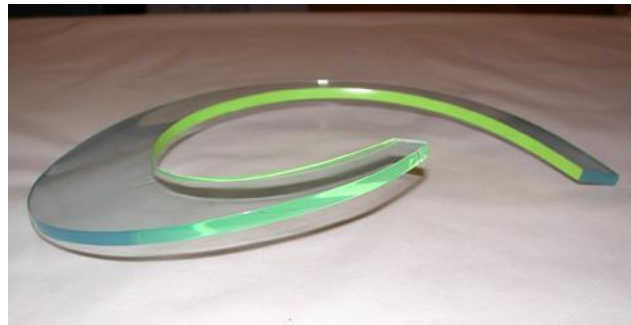


Fig 22. Susanna Heron, *Neckpiece*, 1980, mima, Middlesbrough, J0002, viewed from the side

When the *Bodywork* series was exhibited in 1980, the critic Angela Flowers saw Heron using the body merely as a prop postulating that 'the body has become an abstract vehicle on which to hang.'³⁴ What Flowers did not discern was that the artist involves the wearer in an ongoing creative process. When worn, bodily motion induces colour changes. As green mutates to blue and then yellow around the edges of the neckpiece the wearer accentuates their unique movements. The body is not an abstract entity, as Flowers interpreted, instead individual bodily movements are continuously expressed through jewellery. Optical properties of PMMA are the vehicle through which both Heron and the

³³Taylor, Tracey, Thompson, Katy, *Jewellery Innovations*, (Middlesbrough, Cleveland Crafts Centre, 1996)

³⁴ Flowers, Angela, 'Susanna Heron: Bodywork,' *Crafts* 46 September/ October (1980): 53

wearer communicate. In concurrence with Treen and Ramshaw, she shows how the wearer can connect with jewellery.

Long-term success of Heron's neckpieces, like Treen's work before, relies upon the continued transparent, glossy and reflective qualities of the material. Just as the 'personalities', as identified by Mancini, of Treen's jewellery would be lost without transparency, so too would Heron's, as the impact of the neckpieces could not be detected without the light and information-giving qualities as well. Furthermore, without the continued optical properties of PMMA neither artist could encourage the wearer to become involved with their work.

Perhaps because she followed the original pioneers, Heron had the conviction to dispense with conventional jewellery materials to promote PMMA. Almost twenty years later, in 1997, jeweller Wendy-Sarah Pacey (b.1972) likewise started to use only non-precious materials: PMMA combined with stainless steel wire, for her jewellery.³⁵ Pacey reasserts the suitability of plastics for artist jewellery as an epilogue to original discussions by constructing a unique material from PMMA. Uniting with preceding artists, its visual properties are again central to her dialogue.

Pacey was introduced to plastics during her jewellery degree course at Buckinghamshire Chilterns University College, UK in 1997.³⁶ She experimented with the thermoplastic qualities of PMMA fusing two transparent sheets, enveloping an opaque coloured sheet, interleaved with metallic foils (see fig 23). Once heated, the layered structure is rapidly pressed, splitting the foils into pieces, inside the PMMA sheets.³⁷ Each time, the foils create an original iridescent effect. The 'new' layered material is finally cut into shapes, filed and sanded by hand and then highly polished before fixing onto supporting wires.

³⁵ Wendy-Sarah Pacey, personal interview, 1st March 2004

³⁶ Wendy-Sarah Pacey, personal interview, 1st March 2004

³⁷ Wendy-Sarah Pacey, personal interview, 1st March 2004



Fig 23. Wendy-Sarah Pacey's raw materials, seen in the artist's studio 1st March 2004

'I challenge people to see plastic as precious' is Pacey's enthusiastic aim.³⁸ Her highly coloured and polished work aims to supplant precious materials, not emulate it. Pacey dares the observer to accept PMMA in preference to others. Precious materials are unnecessary in her artworks because they could add nothing more to her thesis. For her, the PMMA has the capability to express itself believing its appearance is 'absolutely gorgeous', and further illustrating that the visual impact of the material is essential to jewellers' creativity.³⁹

To achieve her transformation from off cuts to 'precious' Pacey utilises both the transparency and light reflecting qualities of PMMA. The top and bottom layers of *Ring*, 2005, for example, are colourless and transparent, they act as protective windows so the colourful foil is seen (see fig 24). Furthermore, the curved surfaces deliberately reflect light to intensify and accentuate the flawless shiny appearance. Light reflection and colour dance from the hand of the wearer when the ring is worn, the two elements are choreographed as partners.

³⁸ Wendy-Sarah Pacey, personal interview, 1st March 2004

³⁹ Wendy-Sarah Pacey, personal interview, 1st March 2004

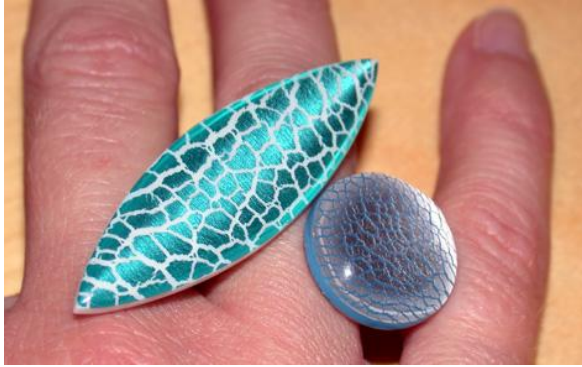


Fig 24. Wendy-Sarah Pacey, Ring, 2005 (PMMA, metal foil, stainless steel) width 34 mm, author's collection

Just as Treen used the inherent properties of the material to trigger reactions in humans, so Pacey explores the same idea. She believes that the shiny colourful appearance of her work makes others regard it as extravagant and of worth, in her own word 'covetable', as it is for her.⁴⁰ The appearance aims to prompt reminiscence of other items with shining captivating surfaces, such as gemstones. Pacey regulates the perception of the wearer, using the appearance of the plastic, encouraging them to embrace her own opinion of the material. She places high expectations upon the faultless PMMA surface within her pieces. Continued flawlessness is, however, critical to invoke the required response.

Pacey, like Treen, builds her jewellery from sheet, whilst Ramshaw physically removes matter to raise an effect and, whether smooth or textured, each artist creates an homogenous appearance. By contrast, new generation jeweller Sarah Lindsay (b.1981) deconstructs PMMA before fusing it together once more, creating an irregular appearance. She presents her jewellery as a personal appraisal of contemporary western society.⁴¹ *Dust Collection*, 2003-04 is created from tiny fragments of differently coloured PMMA, which are mixed, then pressed into discs using heat and exploiting its thermoplasticity (see figs 25 & 26).⁴² In addition to the thermoplasticity, the pre-coloured sheet form of PMMA is ideally suited to the purpose. Even small granules of PMMA can possess strong colour whilst the hardness and stiffness enable such granules to be created through manual crushing with a mallet. Circles of sheet nylon link individual discs to produce wearable jewellery. Lindsay's work has rough unfinished edges whilst

⁴⁰ Wendy-Sarah Pacey, personal interview, 1st March 2004

⁴¹ Sarah Lindsay started using PMMA whilst studying at Glasgow School of Art, 1998-2000. Sarah Lindsay, email correspondence, 28th January 2006

⁴² Sarah Lindsay, email correspondence, 28th January 2006

the speckled appearance is suggestive of flickering computer screens (see fig 25). She explains 'my craft is inspired by the visual sensation of technology.'⁴³ By emulating an activity that is commonplace in the 21st century, staring at a pixelated monitor, her constructed aesthetic critically comments on the media led environments we inhabit. The speckled multi-coloured PMMA makes a direct analogy to the constant barrage of, seemingly unavoidable, ever changing images. She comments 'the artificiality of plastic I think makes plastic a relevant choice...because I believe we live more of an artificial existence than a natural one.'⁴⁴



Fig 25. Sarah Lindsay, *Dust Collection Necklace*, 2005, in raking light showing detail of fused PMMA fragments, (PMMA, nylon), diameter 36mm, private collection



Fig 26. Sarah Lindsay, *Dust Collection Necklace*, 2005, detail, (PMMA, nylon), length of necklace 350mm, private collection

The application of PMMA in Lindsay's jewellery illustrates how jewellers have continued to evolve their working practices and ideas over time. Hers is a technical and conceptual use of the plastic that early pioneers not did conceive. Ramshaw, Treen and Heron exhibit the potential of plastics for jewellery, and

⁴³ Grant, Catherine ed. *New Directions in Jewellery*, (London: Black Dog Publishing, 2005) 161

⁴⁴ Sarah Lindsay, email correspondence, 28th January 2006

Pacey celebrates the desirable appeal of plastics that have helped make them prevalent. Lindsay, meanwhile, through her deconstruction then reconstruction of PMMA grains symbolises and alludes to the consequence of applying synthesised materials in the world. Each jeweller's gaze is towards the future, a blend of physical, aesthetic and conceptual jewellery ideas. Moreover, in each case the surface finish and appearance of PMMA enabled by its properties is primary in their respective arguments.

Ironically the surface which acts as the interface between observer and object, that communicates the intent of the artist so readily and with such versatility, is also its weakness, since the surface is equally capable of being unintentionally altered through abrasion and knocks when handled and moved. The very quality that allows it to be textured or polished ensures it also acquires marks easily. Surface scratches will change the transparency and reflectance of light, they will dull bright hues and interrupt textures, altering the message and interpretation. If the personalities, as suggested by Mancini, of objects are changed then the responses they are designed to provoke will alter.

3.3 Nylon Filament – A Technical Summary

Nylon is the generic name for a group of plastics known as polyamides, which were discovered in 1935 following prolonged research by W. H. Carothers, working for Du Pont, USA (see fig 27).⁴⁵ Distinct types are known by numbers, for example, nylon 6, nylon 11, nylon 6,6, nylon 6,12, which relates to the number of carbon atoms in their repeat units. Each type of nylon has slightly differing properties in terms of, for example, its reaction to moisture and melting temperature. Applications of nylon polymers may be conveniently placed in two major groups. Three-dimensional parts such as gears for mechanical equipment and engines are formed from moulding compounds, whilst fine long lengths of nylon that give textile fibres, hosiery and monofilament, are produced by extrusion.⁴⁶ Nylon monofilaments are differentiated from fibres by having a thicker diameter ranging from around 0.1mm to 1.8mm. Artist jewellers primarily use filament and fibre. Whilst the exact types of nylon they use are rarely recorded, nylon 6 and 6,6, types are consistently used for these applications, dominating the production of all nylon.⁴⁷ The following information thus relates to these types, whose properties may be considered broadly similar.⁴⁸



Fig 27. Wallace Carothers (1896-1937), working in the Du Pont laboratory⁴⁹

⁴⁵ Kaufman, M. The First Century of Plastics Celluloid and its Sequel, (London: The Plastics and Rubber Institute, 1963) 85

⁴⁶ Handley, Susanna, Nylon The Manmade Fashion Revolution, (London: Bloomsbury, 1999) 45

⁴⁷ 'UK Plastics Industry - 1980,' European Plastics News January (1981): n.p.

Brydson, J. A. Plastics Materials, Sixth Edition. (London: Butterworth Heinemann, 1995) 485

⁴⁸ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 238

⁴⁹ Nelson, W. E. Nylon Plastics Technology, (London: Newnes-Butterworths, 1976) 25

Nylon was the first truly synthetic fibre in that it is entirely synthesised or manufactured from ingredients. Du Pont's chairman in 1940 described the necessary ingredients as 'derived from coal, water and air'.⁵⁰ Structurally, nylon is a relatively simple polymer. Repeat units of molecules are connected through functional groups (a recognisable arrangement of atoms with characteristic properties) forming a long linear chain with regular and compact side chains extending either side of the carbon backbone (see fig 28).⁵¹

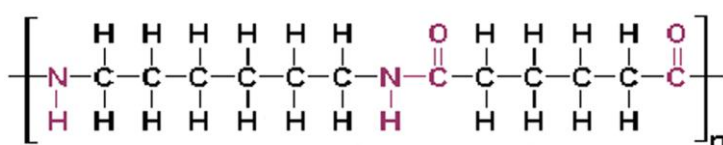


Fig 28. A diagrammatic representation of the repeat unit in nylon 6,6. The connecting functional end groups of the two monomers are seen in the centre in red whilst the functional end groups that connect with other repeat units are shown in red on the extreme edges. Six carbon atoms are seen in the diamine on the left side and six in the diacid on the right

Nylon 6,6, is created by combining two different monomers, which are united via a condensation reaction between a diamine with adipic acid.⁵² The reaction produces nylon salt and further processing uses heat and pressure to polymerise the repeat units into long chains.⁵³ The first digit refers to the number of carbon atoms in the diamine (6), the second number identifies those in the acid (6).

Production of nylon 6 involves one monomer that contains both an amine group and an acid. Caprolactam, the most prevalent monomer, is ring shaped and production involves opening the ring, using heat and pressure, allowing functional groups to connect into long chains (see fig 29). The identifying

⁵⁰ Hirsh, B. W. Nylon, Plastics Monograph 9a. (London: The Institute of the Plastics Industry, 1946) 12

Handley, Susanna, Nylon The Manmade Fashion Revolution, (London: Bloomsbury, 1999) 31

⁵¹ Nelson, W. E. Nylon Plastics Technology, (London: Newnes-Butterworths, 1976) 55

⁵² A condensation reaction occurs when two molecules combine to form one larger molecule with elimination of a small molecule, water is eliminated as a by-product with nylon.

Daintith, J. ed. A Concise Dictionary of Chemistry, (Oxford: Oxford University Press, 1990) 78

⁵³ Nylon Monofilaments Information Service Note 1112. (Welwyn Garden City: Imperial Chemical Industries Ltd Plastics Division, 1964)

number of the nylon 6 is derived from the number of carbon atoms in the caprolactam ring.⁵⁴

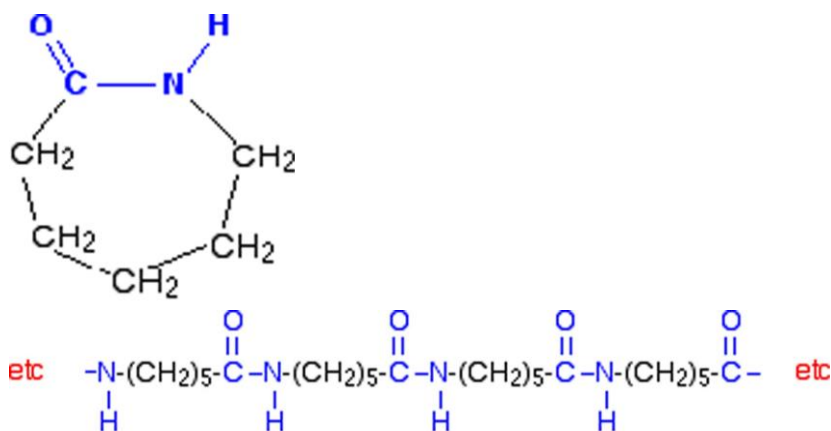


Fig 29. A diagrammatic representation of Caprolactum monomer (left) and the long chain polymer of nylon 6 after ring scission and polymerisation (right). The functional groups necessary for polymerisation are featured in blue.

Polymerisation creates ribbons of nylon that are cut into small 'chips' before further processing into filament via extrusion, whereby molten nylon is driven through a spinneret - a plate with a number of holes - before passing through a cooling water bath and being spooled (see fig 30). Modifications to improve performance are undertaken after extrusion. Cold drawing, for example, stretches the filament to increase tensile strength by orienting polymer chains along the filament length (see fig 30).⁵⁵

⁵⁴ Nylon Monofilaments, Information Service Note 1112. (Welwyn Garden City: Imperial Chemical Industries Ltd Plastics Division, 1964)

⁵⁵ Nylon Monofilaments, Information Service Note 1112. (Welwyn Garden City: Imperial Chemical Industries Ltd Plastics Division, 1964) 3

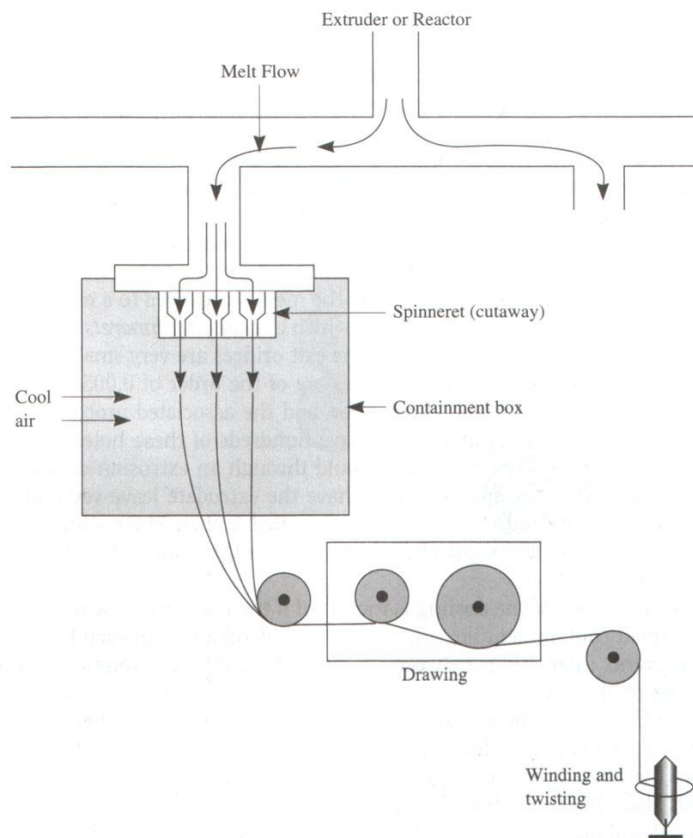


Fig 30. Diagram to illustrate the melt spinning process for the manufacture of nylon filaments⁵⁶

Nylon is thermoplastic because it may be repeatedly softened on heating and then cooled. A highly crystalline structure produces mechanical properties also of use to the jeweller. Since the side chains are not bulky they enable an ordered and close packed polymer, giving high tensile strength of 77 N/mm^2 , good toughness (absorbing energy without breaking) and fatigue resistance, when compared with other polymers (see fig 31).⁵⁷ Crystallinity and smooth extruded surfaces provide abrasion resistance.⁵⁸

⁵⁶ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 402

⁵⁷ Engel, Lothar. et al. An Atlas of Polymer Damage Surface Examination by Scanning Electron Microscope, Trans. M. S. Welling. (London: Wolfe Publishing Ltd, 1981) 248

⁵⁸ Nelson, W. E. Nylon Plastics Technology, (London: Newnes-Butterworths, 1976) 131

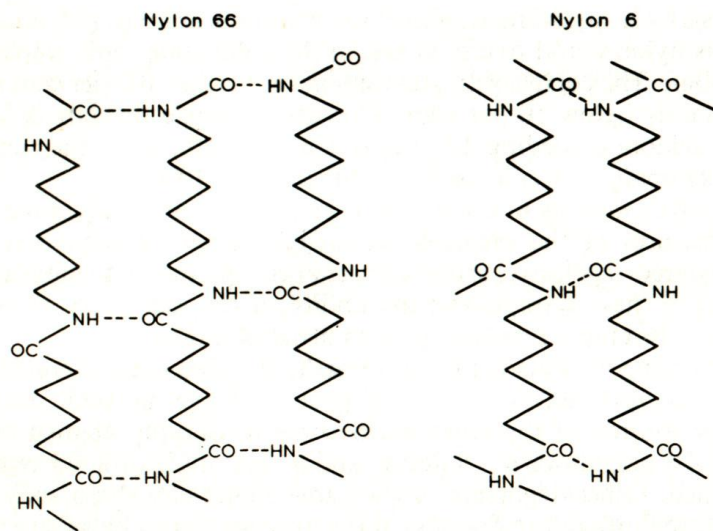


Fig 31. A diagrammatic illustration of the attraction between nylon 6,6 and 6 polymer chains induced by regularly spaced polar H-N, C-O groups

Non crystalline amorphous areas, however, give rise to characteristic pliancy because they permit movement. The elastic modulus or stiffness of nylon 6,6 is recorded as 2000N/mm^2 , lower than PMMA.⁵⁹ The pliant character of nylon at room temperature also results from the glass transition temperature (T_g) being below room temperature.⁶⁰ Above the T_g , amorphous zones soften whilst crystalline areas remain hard leaving nylon tough and structured, yet pliant. Furthermore, the stiffness of a filament is a combination of the modulus and size of the filament.⁶¹ The larger the filament diameter and the shorter in length, the stiffer it will become and vice versa. Considerable energy is needed to reach melting point of the crystalline areas. Nylon 6 has a high melting point of 215°C whilst nylon 6,6, has an even higher recorded melting point of 264°C , both of which are greater than most thermoplastics (see appendix 3).⁶²

The density of nylon is relatively low, reported to be around 1.13g/cm^3 and, like many polymers, is less than that of precious metals used for jewellery making.⁶³ Under applied external load, for prolonged periods, however, nylon will undergo creep leaving permanent distortion. Creep is caused by bonds between chains

⁵⁹ Engel, Lothar. Et al An Atlas of Polymer Damage Surface Examination by Scanning Electron Microscope, Trans. M. S. Welling. (London: Wolfe Publishing Ltd, 1981) 248

⁶⁰ Brydson, J. A. Plastics Materials, Sixth Edition. (London: Butterworth Heinemann, 1995) 470

⁶¹ Filament Performance in Brushes, Technical Information, (Washington: Du Pont, n.d.) 5

⁶² Nelson, W. E. Nylon Plastics Technology, (London: Newnes-Butterworths, 1976) 146

⁶³ Ashby, Michael & Jones, David, Engineering Materials An Introduction to their Properties and Applications, (Oxford: Pergamon Press, 1980) 52

rearranging themselves to new positions as imposed by the applied load.⁶⁴ Failure to recover from bending also results in permanent distortion, occurring when greater force than the bonds can withstand, is applied.⁶⁵ The propensity of nylon to distort can have a bearing on the performance of nylon jewellery in use particularly where flexibility is relied upon.

High crystallinity renders nylon opaque when first polymerised but after orientation there is an increase in transparency and a variety of colouring processes are possible.⁶⁶ Dry tumbling is used to incorporate colouring matter prior to extrusion whereby colouring particles (dyes and pigments) are tumbled with nylon chips to evenly coat them. Once extruded or injection moulded, the pigment is mixed within the polymer. Surface dyeing of nylon filaments, meanwhile, can offer considerable creative potential for jewellers but may be less light fast over time.⁶⁷

3.4 Exploiting the Strengths – Nylon Applied in Artist Jewellery

The first application for nylon filament was for bristles in 'Dr West's Miracle Tuft Toothbrush,' in 1938, thereby substituting natural varieties.⁶⁸ Presumably by comparison with natural bristles the nylon variety possessed superior bend recovery, toughness, elasticity and strength for which nylon is noted and with less absorbency also more hygienic. Far more miraculous than toothbrushes, however, was the use of nylon in hosiery, achieving phenomenal sales of 780,000 pairs on 15th May 1940, the first day of nation-wide sales in the USA.⁶⁹ Exploiting similar qualities as those needed for bristles, particularly strength and elasticity, nylon stockings opened up a world of mass-produced cost effective apparel, modernising womenswear. In 1946, just 11 years after its invention,

⁶⁴ Turner, S. 'Creep in Thermoplastics Nylon 6,6,' British Plastics January (1965): 34-39

⁶⁵ Du Pont Filament Performance in Brushes, Technical Information, (Washington: Du Pont, n.d) 14

⁶⁶ Nylon Monofilaments, Technical Bulletin, (Welwyn Garden City: Imperial Chemical Industries Ltd Plastics Division, 1943)

⁶⁷ The Colouring of Plastics, (Imperial Chemical Industries Limited Dyestuffs Division, 1960) 102
Colin Williamson, Director Smile Plastics, Personal discussion, 26th January 2005

⁶⁸ Handley, Susanna, Nylon The Manmade Fashion Revolution, (London: Bloomsbury, 1999) 45

⁶⁹ Handley, Susanna, Nylon The Manmade Fashion Revolution, (London: Bloomsbury, 1999) 45

Hirsh, writing for the plastics industry, declared nylon a 'notable landmark for chemistry' because its properties proved so serviceable.⁷⁰

These original applications for nylon still endure, causing artist jewellers who use it to reference them, whilst simultaneously forging their own artistic innovations. Nylon's forte appears to be its strength and elasticity, making structures that connect with the body possible. Caroline Broadhead (b.1950), one of the early pioneers with nylon, emulates the earliest commercial application of brush tufts. She exploits nylon's properties in an equivalent manner, yet produces highly unconventional forms, inverting familiar norms. *Tuft Bracelet*, 1980, comprises brightly coloured pink nylon lengths bunched together and secured tightly into regularly spaced holes drilled into laminated wooden circles (see fig 32). Unexpectedly, the bristles protrude inward, to meet at the centre, rather than facing outward. The wearer is required to push their hand past the tufts, displacing them, in order to place the bracelet around their wrist (see fig 33). Broadhead took tuition from a brushmaker in a neighbouring studio to learn her techniques and initially found that 'the wood...split and everything had gone wrong with it' and that the pieces were 'very difficult to make'.⁷¹ With perseverance, however, she discovered techniques that allowed her to express her ideas with nylon line as she envisaged.



Fig 32. Caroline Broadhead, *Tuft Bracelet*, 1980 (nylon, wood) diameter 80mm, mima, Middlesbrough, J0012

⁷⁰ Hirsh, B. W. 'Preface' *Nylon*, Plastics monograph 9a. (London: The Institute of the Plastics Industry, 1946) n.p.

⁷¹ Caroline Broadhead, personal interview, 25th November 2003

Housten, J. *Caroline Broadhead Jewellery in Studio*, (London: Bellew Publishing, 1990) 32



Fig 33. Configuration of nylon tufts in Broadhead's *Tuft Bracelets* when worn.

Broadhead, like generations of brushmakers before her, recognised that the stiffness yet flexibility and resilience of nylon filament are key for successful serviceability. Such qualities enabled her to experiment with 'the visual and actual flexibility' that attracted her to nylon and had become apparent during use.⁷² An apposite combination of elastic modulus giving a structural quality, diameter and relatively short length of the filament provides tufts that stand straight without collapsing yet retain sufficient flexibility to enable the bracelet to function. When not worn, the tufts within the bracelet, in Broadhead's opinion, provide a visual flexibility because an observer perceives that they are able to bend, otherwise they could not place the bracelet on their arm.⁷³ The impression, she believes, entices the bangle to be handled and worn. Similar to Ramsay's metal ring sets and PMMA stands, Broadhead intends that her work can engage people when it is off as well as on the body.

When external force in the shape of a human arm is applied, the actual flexibility of the nylon is exploited. As the tufts are only fixed at one end, they flex in response. Resilience, elasticity and toughness of the filaments are essential to ensure that they bend without breaking and recover their original position when the arm is removed.⁷⁴ Impact and stresses placed on the tufts induced by wearing and handling the bracelet should not, at least for the duration it is borne on the body, permanently deform the filaments. The same principal governs the useful lifespan of brushes with nylon filaments, since they would be of limited value if the tufts deformed under immediate applied stress.

⁷² Caroline Broadhead, personal interview, 25th November 2003

⁷³ Caroline Broadhead, personal interview, 25th November 2003

⁷⁴ Du Pont, Filament Performance in Brushes, Technical Information. (Wilmington: Du Pont Filaments, 2004)



Fig 34. Caroline Broadhead, *Flexible Bracelet*, 1981 (nylon) length 105 mm, mima, Middlesbrough, J0011

Broadhead deliberately sought and experimented with a material that was stronger than cotton, which she used prior to her work with nylon.⁷⁵ Her intent for nylon was to use the strength she realised it possessed to create works with an element of 'playful discovery', items that had to be manipulated for wearing.⁷⁶ *Flexible Bracelet*, 1981, hence utilises the inherent strength of the material to unify the wearer with the jewellery by triggering a tactile sensation because it clenches the wrist (see fig 34).

The pink bangle is constructed from four straight nylon filaments, with both ends inserted into small rigid squares of similarly coloured nylon, cut from a sheet. The filaments are positioned at each corner of the squares, leaving rectangular gaps between the vertical filaments for the wearer to insert their arm. When the bracelet is not worn the filaments sit straight. When an arm is inserted the flexibility and elasticity of the material enables them to bend outwards. The filaments are intended to return to their original straight positions once the stress is removed. To ensure this, filaments must not be stretched beyond their elastic limit.⁷⁷

⁷⁵ Caroline Broadhead, personal interview, 25th November 2003

⁷⁶ Caroline Broadhead, personal interview, 25th November 2003

⁷⁷ Ashby Michael. & Jones, David, Engineering Materials An Introduction to their Properties and Applications, (Oxford: Pergamon Press, 1980) 71

Broadhead employed nylon in a functional manner to propose new forms for jewellery; by contrast Nora Fok (b.1953), who was introduced to nylon line as a student by Broadhead, exemplifies how the mechanical properties combine with visual qualities in her artworks. Fok's articulation of nylon's qualities is more ornamental than that of her tutor.⁷⁸ Stimulus for Fok's creativity is derived, in her words 'from organic sources, my life and the world around me'.⁷⁹ *Onion Ring*, 2003, as the name implies is a direct copy, in terms of size, shape and colour, of an onion, although its tangible form is reinterpreted as a hollow structure in nylon filament (see fig 35). Flexibility, filament size, elastic modulus and strength of the nylon are utilised to create a self-supporting shape, reminiscent of Broadhead's pieces, yet in Fok's work the colourlessness and transparency of the nylon provides airiness and visual weightlessness that belies its resilient flexibility and strength.



Fig 35. Nora Fok, *Onion Ring*, 2004, (nylon, dye) height 150mm, Alice & Louis Koch Collection, Switzerland

Long sections of line are employed to provide a grid framework forming the bulbous shape. Several lengths are woven together, undulating past each other vertically and horizontally forming the warp and wefts of the structure. The vertical woven lengths within the grid extend upwards beyond the bulb to create

⁷⁸ Turner, Ralph, 'Strong Stuff,' *Crafts* 161 November/December (1999): 28

Nora Fok studied at Brighton Polytechnic from 1978-1980 and followed the Wood, Metal, Ceramics and Plastics where Caroline Broadhead was a tutor at the time.

⁷⁹ Nora Fok, correspondence by email, 17th August 2003.

the green dyed strands, representing leaves. The combination of elasticity and size of the filament giving a flexible but not floppy material ensures that the woven shape does not collapse inwards. The rounded shape of the bulb was devised by computer aided design (CAD) techniques and was made manifest by heat forming the woven shape, thereby exploiting the thermoplastic nature of nylon.⁸⁰ Shorter pieces of line are knotted around each interstice of the grid to secure and stabilise the woven structure, the short ends of the knots provide protruding textural spikes. Strength as well as elasticity of the nylon ensures that the knots can be pulled firm without the material breaking, since the line is put under permanent tension.

The low density of nylon, combined with the structural hollow shape that envelops space ensures the large ring is not heavy to wear. Fok realises her pieces are comfortable to wear because the nylon is lightweight, smooth and warms quickly against the skin.⁸¹ She realised that nylon filament is practical for jewellery because the overriding function is to be worn on the body. Moreover the natural colourlessness and transparency of the line adds a visual lightness and ethereal quality to the ring despite its substantial proportions. The airy appearance of Fok's work 'belies its robustness, pieces only appear to be fragile' as the critic Ralph Turner noted.⁸² A visual delicateness possible with fine lengths of nylon is united with the strength and resilience of the material. Fok describes the optical quality she uses to invoke her ideas as a 'luminous brilliance' yet her techniques provide the work with 'an almost crush free character', at least in the short term.⁸³

When assessing how he perceived the artists' approach to their materials, Jim Williamson, Professor in Materials Science at Imperial College, London, mused that the 'visual qualities of the materials' would be their primary concern.⁸⁴ With PMMA this was overwhelmingly the case. Yet Broadhead demonstrates that discovering the mechanical properties of the nylon line had the greatest bearing on her work whilst Fok illustrates that, for her, both mechanical and visual properties are equally important. Both jewellers nevertheless rely on the

⁸⁰ Unpublished written information supplied by the artist when the ring was purchased for the Koch Collection, viewed by the author on 18th April 2004.

⁸¹ Nora Fok, correspondence by email, 17th August 2003.

⁸² Turner, Ralph, 'Strong Stuff,' *Crafts* 161 November/December (1999): 28

⁸³ Fok, Nora, 'New Dimensions,' *The World of Embroidery* 52 1 (2001)

structural qualities of nylon to create and form shapes that can stand independently of supporting structures.

The very recently developed work of Yoko Izawa (b.1966) employs nylon fibres not to create self-supporting structures but to cover existing ones. In doing so, however, she still employs the some of the principles used by Broadhead and Fok in their earlier work. The major technique used to configure the nylon in Izawa's *Veiled Jewellery* is knitting and like Fok's *Onion Ring* her textile construction method emphasises the properties of nylon.⁸⁵ Izawa is inspired by the way she discerns that objects take on a more mysterious presence when covered. Through experiments with her own stockings, which she used to wrap a piece of amber, Izawa reinterprets and emulates one of the early uses of nylon filaments: hosiery. Much as Broadhead reinterpreted the use of nylon for brushes in her *Tuft Bracelets*, Izawa also makes a reference to an historic but also every day nylon application. Izawa readily realises that 'if you saw the [knitted] tubes alone they look ... like hosiery' and physically her interpretation hinges on the similar mechanical attributes of nylon fibres used to create stockings.⁸⁶

Izawa's *Necklace Pearls*, 2004, is a long necklace with a recurring series of identical ovoid shaped sections, joined at their narrow ends. Regular rounded humps are similar to a string of uniform beads (see fig 36). The ovals are three-dimensional rather than flat since their internal structure is created from rigid polypropylene, cut from a sheet, and folded lengthways in a permanent crease. The nylon fibres, blended with even more stretchy *Lycra*®, are knitted into long thin tubes and stretched over the linked ovals to delineate their silhouette by clinging to it, alternately stretching and contracting.⁸⁷

Flexibility and elasticity inherent in both the fibres and knitted structure allows the large difference in width between the widest and most narrow points to be spanned. Whereas weaving in Fok's work helped make the characteristically strong and tough engineering plastic appear esoteric, Izawa's machine knitting

⁸⁴ Professor Jim Williamson, Imperial College, London, personal discussion, 8th March 2005

⁸⁵ Crafts Council, *Chelsea Crafts Fair 2004*, (London: Crafts Council, 2004) n.p.

⁸⁶ Rose, Cynthia, 'Veiled Beauty,' *Crafts* 193 March/ April (2005): 53
Parentheses added by author.

exacerbates the flexibility and elasticity of nylon fibres. The self-supporting possibilities of nylon filament recognised by Broadhead and Fok have been forfeited in Izawa's work to create greater flexibility, so much so that the tube depends on an interior structure to prop it from within.



Fig 36. Yoko Izawa, *Necklace Pearls*, 2004 (nylon, polypropylene)

Yet again, like Broadhead and Fok, the tensile strength of nylon has been recognised by Izawa and exploited within the jewellery to communicate her intent of intimately covering an object. As it extends around the interior form, the knitted structure is under constant and permanent tension because the knitted tube is stretched. If the tension were not created then the shape of the internal structure would not be clearly visible. Without the strength of nylon, such a demand on the material would not be possible. In Broadhead's *Flexible Bracelet* stress is exerted on the filaments only when the article is worn, whereas Izawa demands prolonged tenacity from the nylon filaments she uses. Nylon stockings similarly depend on strength to ensure that they do not fail but their life span is short: they are throwaway items.

Tension created within the knitted structure ensures that the nylon tube exposes the shape of the internal structure yet, in accordance with Izawa's wish, conceals it. Hers is an introspective response to the properties of nylon. The polypropylene is cloaked and the visual properties of the nylon are utilised to give a visual solidity to the necklace through opaque colour, provided by dyeing

⁸⁷ *Lycra* is an elastic fibre that is combined with other fibres to add stretch to clothes. Developed by Du Pont the fibre is classed as an elastane and in structure is a segmented polyurethane.

the fibres. By contrast with Fok who used the transparency of nylon to create a visual lightness Izawa produces a sense of weight and density because the necklace appears solid; an observer perceives the necklace to be heavy. The low density of both plastic materials within the necklace, however, give a false impression and the actual lightweight nature, like Fok's work, enables the necklace to be worn easily, its weight barely perceptible on the body. A wearer may be surprised by the encounter when they wrap the long length of *Necklace Pearls* around their neck two or three times. Izawa's artistic concept of shielding and enclosing forms is echoed when the necklace encircles a body, yet its physical presence on a body is subtler than its appearance suggests. Mechanical and visual properties within the nylon filaments are combined, not to enmesh with one another, like Fok's *Onion Ring*, but to create a contradiction. The wearer can comfortably place the necklace on their body yet also undergo the sensation of being encircled.

Like Broadhead and Fok before her, Izawa has made an individual response to her chosen material, sensing its character and interpreting how these communicate her message. All three artists have used nearly analogous materials to invoke their ideas whilst their responses to its properties are diverse. Strength, elasticity and flexibility of nylon line are central to each piece of jewellery analysed and these material attributes are crucial for the jewellery to continue functioning as intended. Moreover, the artists have sensed and creatively combined supplementary traits within the material, for example, transparency, colour and low density that enhance their artistic concepts and augment the physical structure of the jewellery. Fok blended mechanical and visual features to foster a tangible and visual lightness to her work whilst Izawa's intent was to create a paradox when weightlessness and optical density were unified.

The properties the artists depend on within their work may not last indefinitely and some changes within the jewellery are already becoming apparent. *Flexible Bracelet* has suffered permanent deformation from wearing, whilst *Onion Ring* has distorted under its own weight. *Lycra®* within Izawa's work is unlikely to remain sound beyond a few decades. Both the aesthetic and practical roles of the material in these artworks are beginning to alter.

3.5 Polyester Resin UP – A Technical Summary

Polyester resin (UP) was already established as a polymeric material when Carleton Ellis, responsible for the development of modern unsaturated polyester resins, initially proposed it for laminates and castings in 1940.⁸⁸ UP is but one class of many polyesters available, all distinguished by an ester link (-COO-) within the molecule, but is the one dominant in artist jewellery.⁸⁹ UP is initially liquid, becoming hardened when cured with an initiator. Commercially, it is known for the production of boat hulls and body shells for vehicles, building materials, sanitary ware and small electrical components. In these industrial applications UP is almost always used with strengthening reinforcements, such as glass fibre. However, artist jewellers use them less often, hence their manipulation of UP is generally divergent to that found in industrial applications.⁹⁰

When cured, UP forms a rigid three-dimensional matrix, which is cross-linked, meaning each long chain polymer is connected by chemical bonds that act as bridges to adjacent polymers. The molecule is unsaturated meaning that the active carbon-carbon double bond in the repeating units of the polymer backbone of the resin in its liquid state, needed for cross-linking (see fig 37).⁹¹ The initial production stage combines one or more glycols (propylene, diethylene) with an unsaturated and a saturated dicarboxylic acid (maleic, phthalic) by condensation reaction.⁹² The process is regulated within a resin kettle and halted when the desired molecular weight (usually low) has been reached. In a second stage a monomer or cross-linking agent, most often styrene, in which carbon-carbon double bonds are present, is added.⁹³

⁸⁸ Gait, A.J. & Hancock, E.G. Plastics and Synthetic Rubbers. (Oxford: Pergamon Press, 1970) 97

⁸⁹ Parkyn, B. Lamb, F. & Clifton, B. Polyesters vol 2 Unsaturated Polyesters and Polyester Plasticisers. (London: Iliffe Books Ltd, 1967) 8

⁹⁰ British Federation of Plastics available online

http://www.bpf.co.uk/bpfindustry/plastics_materials_polyester_unsaturated_PU.cfm accessed 16th November 2005

Wycherley, G. Thermosetting Materials – Market Applications, (Development Department Imperial Chemical Industries Ltd, 1979) ICI Plastics Archive C955

⁹¹ Billmeyer, Fred, Textbook of Polymer Science, 2nd edition. (New York: Wiley-Interscience, 1971) 476

⁹² Bjorksten, J. Tovey H. Harker, B & Henning J. Polyesters and their Applications, (New York: Reinhold Publishing Corporation. London: Chapman & Hall Ltd, 1956) 36

⁹³ Parkyn, B. Lamb, F. & Clifton, B. Polyesters vol 2 Unsaturated Polyesters and Polyester Plasticisers. (London: Iliffe Books Ltd, 1967) 19

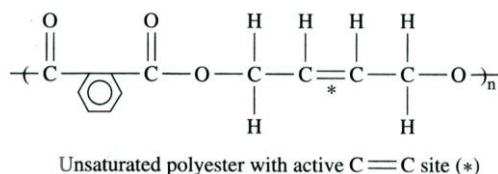


Fig 37. Diagrammatic representation of UP in its uncured liquid form

An initiator is used to cure the liquid resin by an exothermic (heat generating) addition reaction, just prior to being poured into a mould; peroxide is the most important system used, added at around 1-2% of the resin volume.⁹⁴ The styrene monomer additionally serves as a solvent, allowing greater chain movement, and also acts as a bridge during curing. Polymer chains hook onto the styrene monomer during cross-linking because the styrene too has an unsaturated carbon-carbon bond. One carbon-carbon double bond in the initiator reacts with one carbon within a double bond in the polymer leaving a free radical or reactive site. The new free radical reacts with another carbon within a double bond in the resin leaving yet another free radical; a chain reaction is created and a large matrix is developed (see fig 38).⁹⁵ UP resin will harden at atmospheric pressure as no by-products are generated, meaning open moulds are appropriate. The curing process is thus achievable within an artist studio.⁹⁶ Different resins have slightly varying properties. These may be exploited creatively. More liquid resins are suitable for moulds, for example, whilst thicker resins may be used for free-hand surface embellishment of forms. The figures given to describe UP's properties relate to a casting resin produced by Reichhold™ specifically manufactured for small and decorative castings, used by artist jewellers such as Kathie Murphy (b.1966) and Jivan Astfalck (b.1960).⁹⁷

⁹⁴ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 280

⁹⁵ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 266

⁹⁶ Voss Klaus-W. Casting with Polyester, (Uetersen: Klaus-W Voss, n.d.) 15

⁹⁷ PolyLite 32030 series orthophthalic polyester resin modified with methyl methacrylate, supplied by Alec Tiranti Ltd as Clear Casting Resin, www.tiranti.co.uk

Kathie Murphy, personal interview, 17th December 2003

Jivan Astfalck, personal interview, 18th June 2005

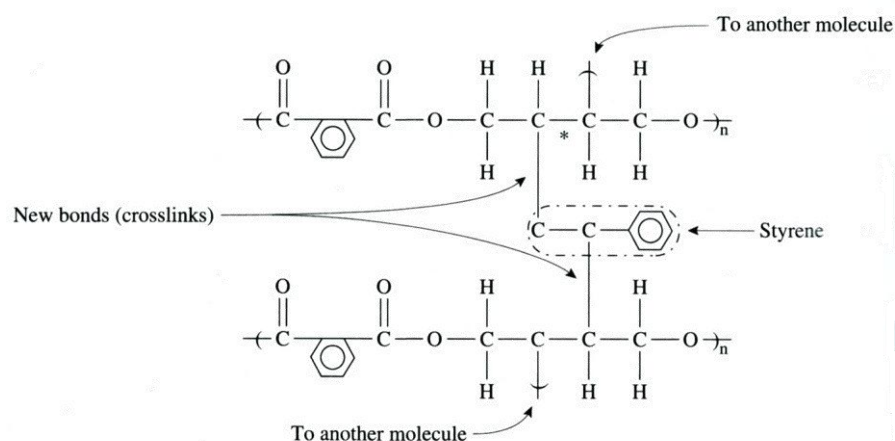


Fig 38. Diagrammatic representation of cross-linking between polymer chains in unsaturated polyester resin, with a styrene monomer

The cross-linked structure influences its properties and UP resin is a thermoset polymer. This means that once cured, UP resin cannot be reshaped by heat, as chains cannot move relative to each other, and will not soften appreciably until decomposition temperature is reached.⁹⁸ Moreover, cured UP resin is rigid and unbending due to the matrix, for the jeweller both advantageous for creation yet potentially a hindrance in the long term. The elastic modulus is high at 14000/20000 N/mm², by comparison with nylon 6,6 (2000 N/mm²) and PMMA (3000 N/mm²), meaning that it is far less pliant (see appendix 3). Correspondingly the inelastic quality of UP renders it brittle and is a primary reason for the use of reinforcements in industry. Elongation at breaking is a diminutive 0.6/1.2 % far below that of pliable nylon 6,6 at 150/300 % (see appendix 3).

A consequence of the necessary combining of resin with initiator is that inaccuracies are possible. Insufficient resin to initiator will give low molecular weight, exacerbating brittleness.⁹⁹ Discoloration of UP resin will occur as a result of ultra-violet radiation but components made from less precisely mixed resin appear to do so more readily.¹⁰⁰ Inadequate mixing of resin has resulted in some discolouration of UP jewellery over time. UP modified with styrene and methyl

⁹⁸ Engel, Lothar et al. An Atlas of Polymer Damage Surface Examination by Scanning Electron Microscope, Trans. M. S. Welling. (London: Wolfe Publishing Ltd, 1981) 7-8

⁹⁹ Bjorksten, J. Tovey H. Harker, B & Henning J. Polyesters and their Applications, (New York: Reinhold Publishing Corporation. London: Chapman & Hall Ltd, 1956) 58

¹⁰⁰ Davis, A. 'Weathering of Polymers,' Developments in Polymer Degradation 1, ed. N Grassie. (London: Applied Science Publishers, 1977) 251

methacrylate, in particular, appear to yellow appreciably on the surface on exposure to light and heat.¹⁰¹

UP resin is a hard material with a ball indentation hardness of 240 N/mm², slightly harder than PMMA, and likewise can be polished smooth (see appendix 3).¹⁰² Detailed surfaces are also possible as it will take on the shape of a mould, and it hence offers considerable artistic and visual possibilities for jewellery. Poor abrasion resistance is an additional characteristic of UP, however, so surface finishes may change over time. Similar to PMMA, surface blemishes may mar a finish.

The density of UP resin is 1.2 g/cm³, marginally denser than PMMA but, the lightweight nature of the material, feted as a major advantage for industrial applications, is, correspondingly, beneficial for jewellery making.¹⁰³

When used without fillers or pigments, UP resin is transparent and colourless thus offering potential for the transmission of light within jewellery items. A possible modification of use to jewellers is the addition of methyl methacrylate to the styrene monomer, in a 1:4 ratio, enhancing optical clarity. The refractive index of the resulting resin is almost that of glass, meaning that it is highly transparent, more so than other varieties of the material. Coloured pigments may be added to UP resin whilst in its liquid state and almost endless possibilities of colour, including opaque, translucent, and metallic are achievable by blending commercially available pigments and additives.¹⁰⁴

3.6 Challenging Variability – UP Applied in Artist Jewellery

Although when cured UP is rigid and unbending, such intractability belies its initial fluid form, which enables complex and sophisticated forms, detail, colour and texture in artist jewellery. With UP great creativity is possible. Jewellery forms are not influenced by pre-formed shapes, sizes or colours characteristic of PMMA and also nylon. Use of manufactured plastic sheets, blocks or rods

¹⁰¹ 'Impolex' Sheet Moulding Compounds. The reason why ICI is Developing SMC. (Imperial Chemical Industries Ltd Petrochemicals Division, 1976) ICI Plastics Archive A749

¹⁰² Murphy, Kathie, Resin Jewellery, (London: A & C Black, 2002) 57

¹⁰³ Gait A. J. & Hancock E. G. Plastics and Synthetic Rubbers, (Oxford: Pergamon Press, 1970) 115

¹⁰⁴ Murphy, Kathie, Resin Jewellery, (London: A & C Black, 2002) 20

demands the artist to think around them. A jewellery artist working with UP, however, first devises the shape they wish to create, and then manufactures a mould to produce it. Although most successful for shapes without long protrusions or very thin sections, great detail is possible through casting, layering or surface embellishment.

Yet UP is possibly one of the most challenging plastic materials to manage and process. Such adaptability also demands exacting standards for mixing and use. Stringent Health and Safety requirements such as fume extraction and gloves are essential because of the styrene content and risk of skin irritation. Moreover, the liquid nature of uncured UP determines that involved processing and finishing is needed. Practitioners also need to learn the process of creating masters for moulding and mould making itself.¹⁰⁵ Dutch jeweller Ruudt Peters (b.1950) who has worked with UP extensively within the last decade reveals, however, that prolonged production can be gratifying in itself. He asserts 'the craft, the making, that is what is most enjoyable, even with these messy materials.'¹⁰⁶ Equally, British jeweller Kathie Murphy (b.1966), working exclusively with UP since 1987, discovered that only with sustained contact with the material was its full potential revealed.¹⁰⁷

Some of Murphy's first encounters with the material were as a binding medium for marble chips or terrazzo as a student, thus emulating an industrial application. Yet imitation of existing applications proved dissatisfying, with early examples being described by her tutors as 'monumental, boring and static' (see fig 39).¹⁰⁸ Instead she rejected the filling material, marble, to embrace the resin only. The workable character and mouldability of UP kindled a more sophisticated creativity, unlike any other material she had encountered. Today Murphy is a leading exponent of UP for jewellery and instructs others through her book on the subject.¹⁰⁹ She is now capable of constructing moulds according to the shapes and sizes she envisages, producing intricately coloured moulded jewellery sometimes incorporating cotton threads as a layer of detail (see fig 40). By freeing the resin from conventional associations her ideas became more

¹⁰⁵ Murphy, Kathie, *Resin Jewellery*, (London: A & C Black, 2002)

¹⁰⁶ den Besten, Liesbeth, 'Not all is What it Seems,' *Change Ruudt Peters*, (Amsterdam: Voetnoot, 2002) 3

¹⁰⁷ Kathie Murphy, personal interview 17th December 2003

¹⁰⁸ Kathie Murphy, personal interview 17th December 2003

dynamic and she steered a bespoke pathway. Murphy reiterates Peter's sense of conquering trepidation, pronouncing it to be a material needing 'practice' but one that can lead to accomplishment.¹¹⁰



Fig 39. Kathie Murphy, *Bangles*, 1987 (Marble, UP, rubber), artist's collection



Fig 40. Kathie Murphy, *Bangle*, 2003 (UP, cotton thread) diameter 106 mm, mima, Middlesbrough, J0131

Similar to Murphy's experience, early use of UP by jewellers in the 1970s inferred the artistic capabilities of UP through original aesthetics though initially did not realise them in full. Susanna Heron's (b.1949) *Flying Bird* series of necklaces, rings and brooches, 1976, appear to submit to UP's fluid character, produced by pouring into receptacles that could contain and control the liquid rather than exploit its full potential. The works comprise oval silver frameworks with stylised silhouettes of birds, extending from the edges towards the centre (see fig 41). UP resin is poured into this decorative and permanent mould which is then smoothed level with the silver and polished to create shiny surfaces. The flat planes are a device to contribute to the 'abstract quality of the finished pieces.'¹¹¹ Here the major departure from predictable jewellery making is not the recognisable and linked pendant forms, as these do not challenge convention to a great degree. The resin merely functions as a backdrop and filler for the more dominant silver profiles, yet Heron did realise that pigments could be used in UP, not to produce one colour, but to present many together. Deliberate partial mixing of pigment with the fluid resin permits seamless grades of colour, in a manner rarely possible with other jewellery-making materials, including plastic, and is Heron's notable contribution to artist jewellery in these pieces. Even so

¹⁰⁹ Murphy, Kathie, *Resin Jewellery*, (London: A & C Black, 2002)

¹¹⁰ Kathie Murphy, personal interview 17th December 2003

¹¹¹ Heron, Susanna, 'Artist statement,' *Jewellery in Europe an Exhibition of Progressive Work*. (Edinburgh: The Scottish Arts Council, 1976), n.p.

the colour is decorative rather than analytical, accentuating the resin as scenery for the silver, emulating blue skies, rather than encouraging the viewer to sense meaning beyond the facade.



Fig 41. Susanna Heron, Flying Bird Necklace, 1977
(resin, silver) width 140 mm, Crafts Council, London, J33

In her relatively prudent application of UP in her *Flying Bird* series, long term retention of a shiny smooth surface of the UP is key to preserve her intent. Such a surface unifies visually with the polished silver and her approach concerns optical rather than structured qualities. Heron reiterates 'my work relates directly to painting' further suggesting that the obvious two dimensions of the surface are the salient point.¹¹² By 1977, only a year later, Heron in her *Jubilee Necklace*, 1977, demonstrates a more profound understanding of the structural possibilities of UP, as an adjunct to another plastic, PMMA (see figs 42 & 43). Three black asymmetrical rings of PMMA are conspicuously joined by fine insertions of UP, with bright colour sections, to create a large disc with a central hole for the head. Here the artist is proposing a very large austere form, a departure in terms of shape and scale from her earlier work, perhaps a progression of the abstract qualities she favours, but now defying convention. Although the PMMA proportionally dominates, the UP is critical for the construction since it holds together the black rings, and by their thinnest dimension. Structural failure of the slender resin elements would destroy the necklace and Heron places high dependence upon its cured solidity, whilst the vivid colour adds vital detail. Without the fluidity of the resin the highly divergent construction could not have been designed in this way and Heron is

¹¹² Heron, Susanna, 'Artist statement,' *Jewellery in Europe an Exhibition of Progressive Work*. (Edinburgh: The Scottish Arts Council, 1976), n.p.

demonstrating the material's incredible versatility and the possibilities of form and effect it can bear.



Fig 42. Susanna Heron, *Jubilee Necklace*, 1977 (UP, PMMA) diameter 445 mm, Crafts Council, London, J131

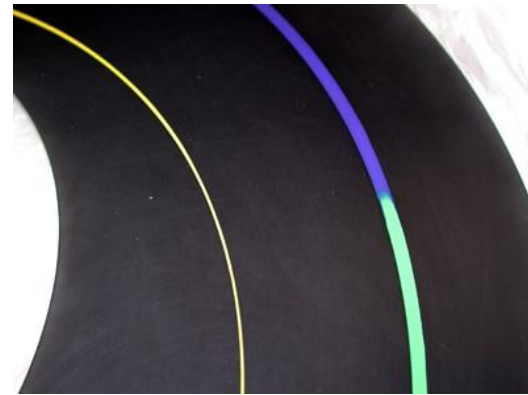


Fig 43. Susanna Heron, *Jubilee Necklace*, 1977 (UP, PMMA) detail, Crafts Council, London, J131

While Heron apparently learnt to successfully mix materials with UP over time, ultimately emphasising both the colour and structural capabilities of the material, a current jeweller, Dawn Gulyas (b.1963) exemplifies how a wider range of effects may be combined. She exposes possibilities hitherto unrealised in artist jewellery to create forms that have confounded and defied categorisation, by even the experienced observer. Jeweller David Watkins (b.1940) remarks that her work is 'simply gorgeous, whatever it signifies' because her unreal but reminiscently organic forms are exceptional.¹¹³ *Brooch*, 1997, resembles a large purple pear in shape but with an additional smooth gold accessory at the sharp end (see fig 44). Built around a core of balsa wood, for lightness, resin is applied in layers to create a seamless skin thus illustrating the fluid contoured veneering and bespoke colouring opportunities UP enables. Not content with the unsettling representations created for the wearer by shape and colour, Gulyas compounds this by accentuating the purple surface with a highly wrought hand carved texture, hence removing some resin she has already applied. Simultaneously it is a tangible familiar shape but unreal in texture and colour; the solid but lightweight form is surprising when handled. As UP exists in two states, liquid and resin, it permits this formation of form and texture.

¹¹³ Watkins, David, *Design Sourcebook Jewellery*, (London: New Holland, 1999) 78



Fig 44. Dawn Gulyas, *Brooch*, 1997 (UP, balsa wood, rubber) length 107mm, Crafts Council, London, J247

In *Brooch*, 1995, an earlier piece, Gulyas demonstrates another stratum in her work and material. The observer is drawn to a textured surface but is also kept distant from it, detaching the form even further from reality (see fig 45). Similarly employing an unusually coloured organic form with appendages, this time a pink kidney shape, it too is carved with brocade like pattern on the resin surface. In addition, the entire shape is cast into a colourless transparent resin case that suspends the form as a yolk in an egg. Exploiting now the fluidity of UP to float and protect the highly laboured shape, transparency of the resin and a shiny polished surface are relied upon to ensure the pink form is seen in great detail through its casing. Hence the artist demands rigorous optical standards from the material. Unable to be touched but observed only, the form acquires an ethereal quality and is reminiscent of a medical specimen saved for its abnormalities and protected in a vitrine. A greater erudition and combination of the versatile artistic capabilities of UP can hardly be imagined and is in advance of the possibilities sensed previously by Heron. Gulyas, however, updates the even earlier ideas proposed by the surrealist artist Meret Oppenheim (1913-1985). In 1937, Oppenheim sketched a design to embed a gold tree branch and a claw from a stag beetle into a transparent block, as a pendant. Subsequent to this sketch the pendant was created for exhibition in 2003 (see fig 46).¹¹⁴ Seemingly the original sketch was anticipating the possibilities of UP now demonstrated by Gulyas.¹¹⁵ Gulyas asserts her autonomy from this past movement, however, by embedding her own oddities rather than ones that occur naturally or that are facsimiles of nature.

¹¹⁴ Levy, Thomas ed. *Meret Oppenheim From Breakfast in Fur and Back Again*, (Bielefeld: Kerber Verlag, 2003) 79

¹¹⁵ Levy, Thomas ed. *Meret Oppenheim From Breakfast in Fur and Back Again*, (Bielefeld: Kerber Verlag, 2003) 79



Fig 45. Dawn Gulyas, *Brooch*, 1995 (resin, rubber, steel, wood) length 160 mm



Fig 46. Meret Oppenheim, *Pendant*, 1937/1985, (resin, gold, stag beetle)

Although there is physical and optical depth to *Brooch*, 1995 it is the surface sheen and transparency at stake for the long term success of the work, fig 45. Should the surface become scratched or dulled an observer may be unable to fully appreciate the intricacy of the textured interior form. Any discolouring of the transparent resin may have a similar effect and the outer shell assumes primary importance for *Brooch's* preservation. By contrast, Ruud Peters (b.1950) has uncovered the core of his captivating UP *Iosis*, 2002, series of brooches and necklaces, cutting his three-dimensional shapes into segments and regarding the interior detailing as a more important encounter than the surface. Gulyas tantalised the viewer yet refused full access to her creative techniques leaving them to guess what was at the core of the lightweight forms but Peters reveals his construction methods as an expressive device.

The Ruudt Peters series *Iosis*, comprises solid, irregularly shaped, yet smooth and rounded, UP masses, infused with bright red pigment, figs 47 & 48. Although each of the series differs in exact form, every one of the solid structures are cast using silver inclusions of tubes or strips along with layers of folded silk textile permeated with the resin. The resulting effect has the appearance of red stratified rocks or crystal structures hidden within rock casings. The artist reveals the internal detailing by cutting through the masses and displaying them as

brooches or pendants, drawing attention to the exposed interior. The UP is thus used for its structural qualities and its moulding ability with its fluidity exploited to envelop more solid silver, and to saturate porous textile. Yet these unexpected materials are blended into the resin for decorative rather than structural effect, unlike the composite UP used in industrial applications. Conceptually Peters makes an analogy with alchemy, the medieval philosophical forerunner of modern chemistry, having as its asserted aim to turn base metals into gold. Iosis is one of the four stages of alchemy, and means reddening, a direct reference to the colour of the resin in Peter's jewellery.¹¹⁶ Although resin is far from a metal, in character and composition, Peters manipulates the UP in controlled stages as an alchemist would a metal, thus promoting himself as the transformer of modern synthetic materials into extraordinary objects.



Fig 47. Ruudt Peters, *Iosis*, 2002 (UP, silk, silver) length 60mm, Galerie Marzee, Nijmegen

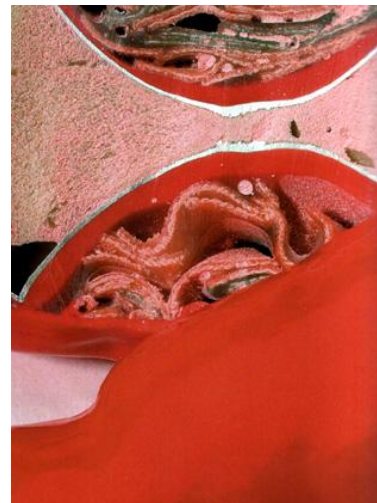


Fig 48. Detail of a further version in the series, revealing the internal structure.

The versatile physical qualities of UP is also recognised by material scientists not just artists. The materials scientist Brian Parkyn, writing in 1967, described UP as 'the modern equivalent of the witches' brew, and for that reason continues to exert an almost mystic fascination'.¹¹⁷ Peters has also sensed and emphasised this esotericism in his conceptual meaning and in his physical manipulation to propose innovative forms for jewellery. He positions himself as neither scientist nor artist but a fusion of both. Applied Art critic Mònica Gaspar senses that

¹¹⁶ Read, H. et al. Eds. C. G. Jung the Collected Works, vol 12 Psychology and Alchemy, Trans R. Hull. (London: Routledge, 1953) 229

¹¹⁷ Parkyn, B. Lamb, F. & Clifton, B. Polyesters vol 2 Unsaturated Polyesters and Polyester Plasticisers, (London: Iliffe Books Ltd, 1967) 8

Peters, being an artist, is 'attracted to the image of an alchemist artist with heightened sensitivity.'¹¹⁸ The all-important internal features he exposes, reveal his standpoint and demonstrate a sophisticated understanding of the possibilities of the material, commensurate with the understanding also conveyed by Gulyas.

Retention of the contrasting smooth outer surface and the more irregular internal detail is paramount for the continued comprehension of the *Iosis* series. Like Gulyas, Peters is simultaneously exploiting a number of surface and structural possibilities of UP. Although visually solid, its brittle nature makes UP jewellery susceptible to damage in use. A fracture, for example, is already apparent in Heron's *Flying Bird* necklace despite the relatively conservative application of the properties of the material and its permanent storage within the Crafts Council collection, fig 41. Furthermore, like PMMA, UP may scratch and the original surface characteristics may alter. In spite of its versatility UP reveals inherent limitations of structure and surface and the properties that make the material so attractive for jewellery may fall short in the longer term. In contrast to the mystical fascination UP inspires, its limitations may lead ultimately to a practical and matter-of-fact assessment of its material properties.

Plastics can be manipulated and, in turn, can be the manipulator. They may be exploited to accentuate the relationship of people with jewellery, the jeweller to their material and message, and the wearer to their jewellery and others. The qualities of plastic materials can provoke and comfort, display and conceal, explain and bewilder, a myriad of emotions echoing everyday experience. Artist jewellers have undoubtedly adopted and adapted plastics as a sophisticated tool for expression. Interpretation of plastics enables artist jewellers to create unique structures and visual appearances, notably surface effects, enabling the discipline to evolve. The physical characteristics of the plastics discussed facilitate the effects required by artist jewellers for direct and immediate impact, and the artists appear to depend upon stringent qualities from plastics to communicate their ideas. At the same time they are looking forward, challenging previous convention, by applying materials that represent contemporary and future visions.

¹¹⁸ Gaspar M. Ruudt Peters of the Seduction of Matter, Available online <http://www.ruudtpeters.nl/> accessed 6th June 2007

Yet whilst their vision may be future-focussed the artists' attitude towards the continued physical presence of their works is not apparent here. As an increasing number of plastic jewellery artworks are generated, put into the public domain and acquired by both public and private collections, the idea of preserving these artworks gains credence. The artworks are the physical evidence of the evolving discipline. Yet at times artist jewellers appear to rely upon properties that may be vulnerable and apt to change. If preservation were a priority for the artists, then it would imply that the long-term behaviour of the artworks is significant. Equally do collectors of plastic artist jewellery concur? The next line of enquiry considers these issues.

Chapter 4

Plastic Artist Jewellery - Attitudes toward Preservation

Plastic artist jewellery, by its very nature, has a short history but it is one that is continually enriched with new and original work. This much is demonstrated in the preceding chapters. Since the pioneering 1960s and 1970s, such jewellery artworks have also been placed in public and private collections as material evidence of the discipline. As stated in the introduction, the author believes that preserving these artworks is essential because it benefits the study of material and artistic culture. Yet this thesis is necessary because almost no published debate exists regarding the preservation of plastic artist jewellery.

This chapter, therefore, presents and analyses the attitudes towards preservation by collection custodians and artists of plastic jewellery artworks, which were encountered during the research. Not only do levels of preservation activity for plastic artist jewellery vary considerably between collections but also it is revealed that some artist jewellers have intuitively and tacitly considered preservation as part of their artistic practice. Whilst some collections demonstrate a lack of awareness regarding preservation altogether, in some cases the artists have given extensive, but often introspective, consideration to the matter. What is evident is that the artists have not articulated their views more widely, particularly to those professionals who acquire their works for collections. This research is the first occasion many of the artists consulted have been asked to outwardly reflect upon and discuss the longevity of their artworks. Studying the attitudes towards preservation by custodians and artists reveals not only changing fortunes of the artworks but also how their history is being formed and has implications for whether the objects survive as material evidence of this history. Hence, the perspectives of both collection custodians and artists are expressed and placed side by side for the first time. The aim, by establishing these current attitudes and discussing some reasons for them, is to promote debate and encourage future preservation activity.

Eight jewellery collections were studied both in public and private domains; the rationale for their selection is given in more detail below. A synopsis of each collection is provided, below, in tabulated form for brevity and ease of comparison. The collections are documented, in part, because such information has not been

presented in this context previously and the extent of plastic jewellery in collections has yet to be appreciated. More importantly, the collections provide the evidence of the issues being discussed within this chapter, also in others by providing case histories. Following this information is discussion regarding the preservation attitudes and levels of activity of preservation in the collections. Finally attitudes and opinion of artists regarding preservation of their plastic jewellery artworks is presented.

The fact that museums desire to preserve their collections is considered so predictable that it has been noted as a truism, (although preservation seems to be at the bottom of the priorities for some jewellery collections at the moment).¹ After all, objects are a primary source of the information and knowledge museums represent. Ongoing reflections of history or even the present day intensify the resonance of collections, as layers of meaning and interpretation that objects represent, become apparent. In attempting to explain motives for preservation in museums conservation professionals Miriam Clavir and Salvador Muñoz Viñas assert that the values commonly recognised in objects prompt both intellectual care, through curatorship, and physical care, through preservation.² Yet both Clavir and Muñoz Viñas make an underlying assumption. For their argument to hold true, a widespread awareness of preservation and access to conservators must exist along with customary communication between conservators and curators. When collections holding plastic artist jewellery were studied, intellectual care was naturally present in every case, to shape the content. Preservation measures and a desire to preserve, on the other hand, varied considerably. By no means all collections have conservators working with them, leaving custodians to manage the artist jewellery unaided. Hence the attitudes toward preservation discussed are necessarily those of the curators and owners since in many cases conservators are simply not involved. Communication between curatorial and conservation professions simply did not exist as a result and a lack of familiarity in the conservation profession was noted amongst several curators and collection owners.

What becomes apparent from the collections is that having a status of 'museum objects' is crucial for the perception of the need for preservation of the jewellery.

¹ Clavir, Miriam, Preserving What is Valued, (Vancouver :UBC Press, 2002) 33

² Clavir, Miriam, Preserving What is Valued, (Vancouver :UBC Press, 2002) 33

Muñoz Viñas, Salvador, Contemporary Theory of Conservation, (Saint Louis, MO: Butterworth Heinemann, 2004) 177

Overtime some public collections have come to realise that the jewellery artworks are indeed 'museum objects' and so have introduced preservation measures where they did not exist previously. Perhaps more surprisingly, in some jewellery collections, even though the objects are perceived as museum pieces, the value of the physical object has recently changed, even reduced and is subject to continual shift in priority. This has a bearing on the level of preservation within the collection and the continued priority preservation is given, or not. Discrepancy also exists between custodians' beliefs regarding the durability of their collections and reality of the objects within. Linked to status is the wearable function of jewellery. Tension exists between the roles of these items: to be worn or not worn. Some collections have not clarified whether the jewellery is for wearing. What is clear is that the desire to wear the jewellery in collections is tempting. Some artists expect other stakeholders to take responsibility for the ongoing care of their artworks whilst other artists place the responsibility on themselves. The monetary value of plastics also becomes relevant to the discussion. Since there is little inherent value in plastics it is clear it is the artistic value embodied within that is pertinent. So much so, it is even suggested by artist Jan Yager (b.1953) that perhaps her work will last longer because the lack of monetary value renders the materials less susceptible to recycling and reworking. Certainly the discussion serves to demonstrate how artists can add to the preservation debate as stakeholders involved in the future of their artworks.

The concept of preservation needs commenting upon for the present context. Here preservation is used to denote that practical measures (suitable storage, environmental controls for light, temperature and humidity and handling strategies and conservation treatment where suitable), are appropriate to prolong the life span of collection items as far as possible. Predicting the actual durability of plastic jewellery artworks encountered is, however, impractical due to the numerous variables such as construction, materials, use and environment. Instead, it is suggested that preservation measures should assist the jewellery to exist at least beyond the generation of the producing artist, to be available for the next to interpret.³ Certainly preservation may not be universally suitable. For an artwork that, in the eyes of the artist, is conceptually and deliberately ephemeral, preservation may be considered inappropriate. Naomi Filmer's (b. circa 1969) *Ice*

³ For a discussion about the length of time conservators tend to see as 'long term' please see the following publication. Lindsay, William, 'Time Perspectives: What 'The Future' Means to Museum Professionals in Collections-care,' The Conservator 29 (2005): 51-62

Jewellery, 1999, is an exemplar of impermanence and performs temporality to accentuate the experience of wearing jewellery over its material possession.⁴ The jewellery, created from ice, is formed as a disc that sits around the thumb which deliberately melts and disappears during a performance. Prolonging the life of this jewellery is possible but may be entirely against the intent. Hence preservation in this thesis is considered to be appropriate where impermanence is not overtly part of the meaning.

4.1 Plastic Jewellery in Collections

The contents of five collections in the public domain and three in the private domain, holding plastic artist jewellery since the 1960s, are summarised (see figs 49-56). Although no collection can be wholly representative, as by nature they are a selection, the proportion of jewellery incorporating plastics encountered demonstrate that plastics have achieved a pervasive presence in the discipline and collections. A conservative estimate of 543 pieces of plastic artist jewellery is held by the eight collections examined and this number will unquestionably increase. The vast majority of these artworks were viewed during the course of the research.

As a group, the collections provide a broad document of the discipline and they were selected for this reason. The choice of collections was additionally dictated by the willingness and availability of custodians for access. The three private collections chosen are based upon scholarly principals, rather than for day to day wearing, since, as a result, they have elements in common with museum collections. Although as we shall see, despite the scholarly remit of both public and private collections the issue of wearing the jewellery has some bearing on the past and future prospects of some of the collections examined. Frustratingly, only one collection, Shipley Art Gallery, Gateshead, had readily accessible documentation or statistics regarding their holdings. Some did not possess an inventory and curators generally had insufficient knowledge to answer questions about materials present: a revealing fact in itself and, as will be demonstrated, a contributory factor toward the knowledge and importance attributed to the preservation of the collections. Either all pieces or a representative selection of plastic artworks were examined in each collection, as resources permitted in each case, combined with discussion with the curator or owner. Statistics and information presented are, therefore, based on the author's calculations of pieces seen.

⁴ 'Thumb disc, Ice Jewellery by Naomi Filmer,' *Crafts* 163 (1999)

Collections in the Public Domain		
Crafts Council, London		
Viewed 20 th December 2006		
Synopsis <p>Begun in 1971, in parallel with the organisation itself, the collection represents many aspects of applied arts, glass, ceramics, textiles as well as jewellery. The collection is permanently held in commercial art storage, and is not normally accessible. Pieces are available for loans to institutions.</p>		
Collecting principles <p>Works are post 1970, and the jewellery predominantly dates from 1970s-1980s. The essential attribute for inclusion or artworks is deemed as 'quality' whereby the artist has expressed their idea clearly through the chosen medium.⁵ The over arching aim is to 'to foster, promote and increase the interest of the public.'⁶</p>	Total number of pieces in collection <p>Over 1400 in entire collection</p>	Proportion of jewellery pieces incorporating plastic <p>Over 95 seen: 6.8% of total collection</p>
Artists represented in collection <p>A collection representing UK artists with some other European artists working in the UK included. Significant artists using plastics include: Caroline Broadhead, Peter Chang, Nora Fok, Dawn Gulyas, Susanna Heron, Julia Manheim, Roger Morris, Adam Paxon, Wendy Ramshaw, David Watkins, Christoph Zellweger</p>	Major types of plastic material present <p>PMMA, Nylon, UP. Rubber, PVC,</p>	
Preservation measures applied to the collection? <p>Environmental control of storage areas. External conservation expertise is called upon on occasion for consultations.</p>	Level of new acquisitions <p>Nowadays only when needed to support immediate projects.⁷</p>	

Fig 49. Collections in the Public Domain – Crafts Council

⁵ Birgit Dohrendorf, Registrar Crafts Council, personal discussion 20th December 2006

⁶ <http://www.craftscouncil.org.uk/about/about.htm> accessed 4th March 2007

⁷ Birgit Dohrendorf, Registrar Crafts Council, personal discussion 20th December 2006

Collections in the Public Domain		
Middlesbrough Institute of Modern Art (mima), Middlesbrough		
First viewed 2 nd February 2003, & several occasions since		
<p>Synopsis</p> <p>Founded in 1982, the collection is titled the International Contemporary Jewellery Collection. The earliest piece dates from 1972. The holding institution for the collection, initially known as the Cleveland Crafts Centre, is now branded as mima and is housed in a new gallery/ arts centre and storage facility.⁸ Periodic thematic displays of the jewellery are planned. Until the mid 1990s the jewellery functioned as a handling collection.⁹</p>		
<p>Collecting principles</p> <p>Initially selected by applied art critic Ralph Turner to represent new and challenging ideas for wearable items, only non-precious materials were included.¹⁰ Since around year 2000, precious materials have been collected enabling a broader collection of contemporary work to be represented.¹¹</p>	<p>Total number of pieces in collection</p> <p>176</p>	<p>Proportion of pieces incorporating plastic</p> <p>110: 62.5 % of total</p>
<p>Artists represented in collection</p> <p>65 jewellers are represented, predominantly from the 3 leading countries in experimental artist jewellery: UK 46.2% of the collection, The Netherlands 29.2%, Germany 15.4%.</p> <p>Significant artists using plastic include: Gijs Bakker, Caroline Broadhead, Peter Chang, Nora Fok, Susanna Heron, Julia Manheim, Kathie Murphy, Adam Paxon, Wendy Ramshaw, David Watkins, Christoph Zellweger</p>	<p>Major types of plastic material present</p> <p>PMMA, nylon, UP, rubber in many natural, modified and synthetic varieties, polystyrene, polypropylene, Cellophane, Polyurethane foam</p>	
<p>Preservation measures applied to the collection?</p> <p>The new storage facility provides environmental control and bespoke storage. Prior to 2007 fewer preservation measures were in place.</p>	<p>Level of new acquisitions</p> <p>Around 10 purchases are made every year, using grant funding.¹²</p>	

Fig 50. Collections in the Public Domain - mima

⁸Herbert, Ian, 'Introducing mima, Middlesbrough's Moma,' *The Independent*, 27th January 2007

Bayley, Stephen, 'How Boro will lose its 'Crap Town' Tag,' *The Observer*, 28th January 2007

Leris, Sophie, 'The Art of the Tees,' *The Independent on Sunday*, 28th January 2007

⁹ James Beighton, Curator of Craft, personal discussion, 17th March 2003

¹⁰ Turner, R. *International Contemporary Jewellery*, (Middlesbrough: Cleveland Craft Centre, n.d.) n.p.
Wilson, Shelagh, 'Redefining Jewellery? The Non-precious Jewellery Collection,' *Jewellery Innovations*, (Middlesbrough: Cleveland Craft Centre, 1986) n.p

¹¹ Beighton, James, *International Contemporary Jewellery, Collection Policy Phase 2 (draft)*, (Middlesbrough: Cleveland Craft Centre, 2002, n.p.)

¹² James Beighton, Curator of Craft, personal discussion, 17th March 2003

Collections in the Public Domain		
National Museums of Scotland, Edinburgh		
Viewed 6 th May 2003		
<p>Synopsis</p> <p>The contemporary jewellery collection is part of the larger Scottish and European Department that showcases 'fine examples of applied art' dating from AD1100 onwards.¹³ Much of the collection was on permanent display in the gallery prior to refurbishment 2009-11, whilst newer acquisitions have tended to remain in storage. The newly refurbished museum will feature the jewellery as part of thematic displays rather than in a dedicated gallery.¹⁴</p>		
<p>Collecting principles</p> <p>The curator, Dr Elizabeth Goring, purchased many items from the 1980s onwards and was seeking 'originality in concept', which were frequently in tandem with non-precious materials.¹⁵</p>	<p>Total number of pieces in collection</p> <p>Over 200 in contemporary jewellery collection</p>	<p>Proportion of jewellery pieces incorporating plastic</p> <p>Approx 55: 27.5% of total collection</p>
<p>Artists represented in collection</p> <p>International artists are present but with an emphasis on UK and European.</p> <p>Significant artists using plastic include:</p> <p>Caroline Broadhead, Peter Chang, Nora Fok, Susanna Heron, Julia Manheim, Kathie Murphy, Adam Paxon, Wendy Ramshaw, Brigitta Turba, David Watkins, Jan Yager, Christoph Zellweger</p>	<p>Major types of plastic material present</p> <p>PMMA, nylon, UP, rubber, undetermined found objects, more unusual materials such as high impact styrene.</p>	
<p>Preservation measures applied to the collection?</p> <p>Permanent gallery and storage areas are environmentally controlled. Conservation studio on site with specialist modern materials conservation scientist, Dr Anita Quye.</p>	<p>Level of new acquisitions</p> <p>Intermittent, when funding allows.¹⁶</p>	

Fig 51. Collections in the Public Domain - National Museums of Scotland

¹³ <http://www.nms.ac.uk/scotlandand europe.aspx> accessed 4th March 2007

¹⁴ David Cauldwell, Keeper of Scotland and Europe, personal discussion, 17th December 2009.

¹⁵ Dr Elizabeth Goring, Curator of Modern Jewellery, personal discussion, 6th May 2003.

¹⁶ Dr Elizabeth Goring, Curator of Modern Jewellery, personal discussion, 6th May 2003.

Collections in the Public Domain		
Shipleigh Art Gallery, Gateshead		
Viewed 4 th March 2003		
Synopsis		
The collection was formed from 1977 onward and represents many categories of applied arts, including jewellery. Pieces date from 1977 onwards. Little of the jewellery is displayed despite there being a dedicated gallery for the applied art collection, and it is permanently stored.		
Collecting principles	Total number of pieces in collection	Proportion of jewellery pieces incorporating plastic
The collection is intended to embrace contemporary craft practice and that of the region to form a 'permanent display of high quality work'. ¹⁷ Julia Manheim is represented by 25 pieces which she produced in 1983 whilst undertaking an artist residency at Newcastle Polytechnic, now Northumbria University. ¹⁸	Around 700 in total, 95 jewellery pieces	37: 39% of the jewellery
Artists represented in collection	Major types of plastic material present	
The majority of jewellers represented are UK based but a small number are international. Significant artists using plastic include: Caroline Broadhead, Peter Chang, Susanna Heron, Esther Knobel, Julia Manheim	PMMA, nylon, UP, PVC, rubber	
Preservation measures applied to the collection?	Level of new acquisitions	
The gallery space is environmentally controlled but the storage areas where the jewellery is permanently held are not. There is a regional conservation facility available but little has been applied to the collection to date.	Very occasional, a piece every 4-5 years. ¹⁹	

Fig 52. Collections in the Public Domain – Shipleigh Art Gallery

¹⁷ Fletcher-Williams, Anne, 'Contemporary Craft at the Shipleigh Art Gallery,' Contemporary Craft Collecting at the Shipleigh Art Gallery, Gateshead, (Gateshead: Tyne & Wear Museums, 2003) 4
'Gateshead, Shipleigh Art Gallery,' Crafts 46 September/ October (1980): 22

Helen Joseph, Curator, personal discussion, 4th March 2003.

¹⁸ Julia Manheim, personal interview, 24th November 2003

¹⁹ Helen Joseph, Curator, personal discussion, 4th March 2003.

Collections in the Public Domain		
Victoria & Albert Museum, London		
Viewed 10 th October 2006		
<p>Synopsis</p> <p>The jewellery collection has over 4000 pieces stretching from antiquity to the present. Contemporary jewellery forms but a small proportion of this total. The jewellery gallery in the museum was recently refurbished enabling a major permanent display of a representative selection of the entire collection.</p>		
<p>Collecting principles</p> <p>No particular policy is followed for the contemporary work excepting that costume jewellery and work by established jewellery houses is excluded at present. By default artist jewellers are therefore represented. Non-precious materials are, in the curator's opinion 'usually where the most exciting things are going on.'²⁰</p>	<p>Total number of pieces in collection</p> <p>Approx 4000</p>	<p>Proportion of jewellery pieces incorporating plastic</p> <p>Approx 18:0.5%</p>
<p>Artists represented in collection</p> <p>Predominantly European jewellers are represented Significant artists using plastic include: Gijs Bakker, Caroline Broadhead, Sigurd Bronger, Peter Chang, Susan Cohn, David Watkins</p>	<p>Major types of plastic material present</p> <p>PMMA, nylon, PVC, rubber, undetermined found objects.</p>	
<p>Preservation measures applied to the collection?</p> <p>The new galleries are environmentally controlled, as are some storage areas. An extensive and specialised conservation department exists including a modern materials conservation scientist, Dr Brenda Keneghan. Pieces underwent examination and treatment for the refurbished jewellery gallery opened in 2008.</p>	<p>Level of new acquisitions</p> <p>Occasional, one piece every year or so.²¹ The holdings were enriched in 2006 by the Royal College of Art Visiting Artists Collection, developed since 1987.</p>	

Fig 53. Collections in the Public Domain – Victoria & Albert Museum

²⁰ Clare Phillips, Curator, personal discussion, 27th January 2003

²¹ Clare Phillips, Curator, personal discussion, 27th January 2003

Collections in the Private Domain		
The Marzee Collection, Nijmegen, The Netherlands		
Viewed 1 st December 2006		
<p>Synopsis</p> <p>The jewellery collection is personally owned by Marie-José van den Hout, proprietor of Galerie Marzee, a prominent jewellery gallery in The Netherlands. Amassed over 27 years since the gallery opened in 1979, the collection is permanently stored and simultaneously displayed on the top floor of the gallery. Pieces are used as a handling collection and for occasional wearing by selected individuals.²²</p>		
<p>Collecting principles</p> <p>The concept expressed in the jewellery should not be gimmicky but remain lucid and be timeless.²³ The combination of design and concept is imperative and the collection does not demonstrate a chronological sequence of events as a priority.</p>	<p>Total number of pieces in collection</p> <p>Approx 620</p>	<p>Proportion of jewellery pieces incorporating plastic</p> <p>78: 12.6% of total</p>
<p>Artists represented in the collection</p> <p>The majority of pieces are acquired from artists represented by the gallery, from significant thematic exhibitions and European Art Academies.²⁴ The majority of artists are Dutch, whilst a strong German presence is also noted.</p> <p>Significant artists using plastic include: Gijs Bakker & Ruudt Peters.</p>	<p>Major types of plastic material present</p> <p>PMMA, nylon, UP, rubber, unidentified readymade materials.</p>	
<p>Preservation measures applied to the collection?</p> <p>The storage drawers are purpose built but not with preservation in mind. No environmental control is present.</p>	<p>Level of new acquisitions</p> <p>Additions to the collection are numerous.²⁵</p>	

Fig 54. Collections in the Private Domain – The Marzee Collection

²² Lotte Klösters, Gallery Assistant, personal discussion, 1st December 2006

'Jewellery, the Choice of the European Parliament,' *Marzee Magazine* 28 June-July (2004): 14-15

'The Choice of,' *Galerie & Collection Marzee*, (Nijmegen: Galerie Marzee, 2004) 106-117

²³ Lotte Klösters, Gallery Assistant, personal discussion, 1st December 2006

²⁴ van Berkum, Ans, 'Galerie Marzee 1979-2004 A Jewel beside the Waal,' *Marzee Magazine* 28 June-July (2004): 24-25

Combs 100 Combs Designed by Artists, (Nijmegen: Galerie Marzee, 1989)

²⁵ Lotte Klösters, Gallery Assistant, personal discussion, 1st December 2006

Collections in the Private Domain		
Derrez-Hoogstede Collection, Amsterdam, The Netherlands		
Viewed 13 th November 2006		
Synopsis		
The personal collection of Paul Derrez, proprietor of Galerie Ra jewellery gallery, Amsterdam and his partner Willem Hoogstede. Started in 1976, when Galerie Ra opened, the collection is stored in the owners' home. First accumulated for wearing, this no longer occurs because the collection grew too large, along with an increasing desire to trace the artists' development. ²⁶ Items from the collection are exhibited irregularly. ²⁷		
Collecting principles	Total number of pieces in collection	Proportion of jewellery pieces incorporating plastic
Pieces in the main part are non-precious but it is not a stated policy. Anticipated 'ingredients are concept, design, shape, use of techniques and materials'. Although largely derived from the work of Galerie Ra, Derrez recalls that collecting is more 'personal and spontaneous'. ²⁸	Approx 300	120: 40% of total
Artists represented in the collection	Major types of plastic material present	
Many Dutch artists are represented but a wide European spectrum is noted. Significant artists using plastic include: Gijs Bakker, Caroline Broadhead, Susanna Heron.	PMMA, nylon, UP, rubber, PVC.	
Preservation measures applied to the collection?	Level of new acquisitions	
None in evidence.	Pieces are continually added.	

Fig 55. Collections in the Private Domain – Derrez-Hoogstede Collection

²⁶ Paul Derrez, personal interview, 13th November 2006

²⁷ Radiant 30 years Ra, (Amsterdam: Galerie Ra, 2006)

²⁸ Paul Derrez, personal interview, 13th November 2006

Collections in the Private Domain		
Alice & Louis Koch Collection of Finger Rings, Switzerland		
New acquisitions were viewed during 2002-2007		
<p>Synopsis</p> <p>The private collection covers 4000 years of jewellery history represented through nearly 2800 examples of finger rings. Possession is passed through the owning family, since about 1900, and the present generation trust the curatorship to the jewellery historian, Dr Beatriz Chadour-Sampson. Expansion of the contemporary component is a current interest. The collection is permanently stored or on private display, public access is limited and exhibitions a rarity, although some are published. ²⁹</p>		
<p>Collecting principles</p> <p>In line with the collection in its entirety the contemporary rings are selected for their 'individual and artistic concept' whilst 'the name of the artist is secondary unless that artist is specialised in ring designs.'³⁰ Contemporary work represents 20th century materials and design.</p>	<p>Total number of pieces in collection</p> <p>2800</p>	<p>Proportion of jewellery pieces incorporating plastic</p> <p>Up to 70 2.5 %</p>
<p>Artists represented in collection</p> <p>The artists represented are highly international. Significant artists using plastic include: Peter Chang, Nora Fok, Fritz Maierhofer, Wendy Ramshaw</p>	<p>Types of plastic material present</p> <p>PMMA, nylon, UP, rubber, PVC, Cellophane, cellulose acetate.</p>	
<p>Preservation measures applied to the collection?</p> <p>To date preservation measures are acknowledged but have never been a priority.³¹</p>	<p>Level of new acquisitions</p> <p>Additions to the collection are numerous.³²</p>	

Fig 56. Collections in the Private Domain – Alice & Louis Koch Collection of Finger Rings

²⁹ Chadour, Anna Beatriz, *Rings: Alice & Louis Koch Collection*, (London: W.S. Maney & Son Ltd, 1994)

³⁰ Chadour-Sampson, Beatriz, *Unpublished Collection Statement Alice & Louis Koch Collection of Finger Rings*, 2004.

³¹ Beatriz Chadour-Sampson, personal discussion, 24th April 2004

³² Beatriz Chadour-Sampson, personal discussion, 24th April 2004

Generally the artworks within the collections echo the pattern of adoption of plastic materials by artist jewellers, and represent a range of artists who apply them. The most prevalent plastic material encountered was Poly(methyl methacrylate) (PMMA). This relates to the pattern of use in plastics by artists noted from the 1960s onwards as discussed in chapter 2. 32% of the plastic jewellery in the Middlesbrough Institute of Modern Art (mima) collection, for example, is created from the material, and ranged from some of the earliest pieces in the 1980s, Susanna Heron (b.1949) to some of the most recent acquisitions, Adam Paxon (b.1972). Similarly 38% of the plastic jewellery viewed in the Crafts Council and 61% in the V&A collections were manufactured with PMMA: collections strongest in pieces from the late 1970s and early 1980s. Nylon, polyester resin, rubbers (both natural and synthetic types) and PVC have a lesser but consistent presence that stretches from the 1970s until today. Whilst PMMA, nylon, polyester resin and rubber are used by diverse artists, PVC is ostensibly noted due to the work of two major artists, Gijs Bakker (b.1942) and Julia Manheim (b.1949), who are well represented in some collections studied. Bakker's laminated PVC work is held in almost every collection, whilst the Shipley Art Gallery and the Crafts Council extensively support Manheim's PVC coated *Wirewear*.

More varied plastics, for example, polystyrene, polypropylene and polyurethane are encountered far less consistently in collections than PMMA, nylon, unsaturated polyester resin (UP) and rubber. Polyurethane foam is used, for example, by Sigurd Bronger (b.1957) for an integral cushioning of his brass and egg *Portable Instrument* (1997) held by mima. Susan Cohn's (b.1952) conceptual *Survival Bracelet* (1998) in the National Museum of Scotland meanwhile holds possibly the most diverse and unexpected components, comprising a styrene bangle containing condoms, analgesic, bankcard, key and sticking plaster.

Inevitably the proportion of plastic jewellery artworks held in collections by comparison with jewellery created from other materials varies. The context of particular collections has considerable bearing upon this. The Crafts Council, the Marzee Collection and the Alice and Louis Koch Collection of Finger Rings, for example, have very large collections of jewellery representing multiple material applications. As a result the proportion of items incorporating plastic appears relatively small despite the actual numbers being notable. Mima and Derrez Hoogstede collections hold the highest proportions of plastic jewellery at 62.5% and 40% respectively. The non-precious remit of the original collection at mima and

Derrez's (b.1950) personal work as a leading exponent and hence interest in plastics for artist jewellery are causes here. The V&A collection has the smallest proportion and actual number of plastic jewellery artworks despite having the largest jewellery collection of those studied. Moreover, the number of acquisitions is low. Yet ironically, the V&A has one of the most comprehensive preservation and conservation facilities and knowledge amongst the collections studied. Sadly, other collections holding more extensive examples of plastic artist jewellery cannot call upon such expertise and, as will become evident below, awareness.

Finally it is worth noting that similar artists are encountered between the various collections. Work by artists such as David Watkins (b.1940), Gijs Bakker (b.1942), Peter Chang (b.1944), Susanna Heron (b.1949), Caroline Broadhead (b.1950), Nora Fok (b.1953) and Adam Paxon (1972), amongst others, recur. This is particularly marked for the early exponents of plastics in artist jewellery. Several collections were acquiring artworks most actively during the 1970s and 1980s at a time when the majority of these artists were first generating and exploring ideas with such materials. A significant number of the collections studied were formed during the same period and arguably in response to the new developments in the jewellery discipline. These collections include, mima, NMS, Shipley Art Gallery, Derrez-Hoogstede Collection, Marzee Collection. Newer artists are also represented, however, and continued collecting of plastic artworks will occur, with numbers continually increasing. The private collections very obviously are acquiring new artworks at a much greater rate than the public collections. Preserving these artefacts and generating debate around this subject, as this thesis intends, becomes ever more relevant to enable the study of the past and present of the discipline.

4.2 Preservation - Attitudes and Application in Jewellery Collections

Larger public institutions, in the main, provide the most comprehensive collection care strategies. Perhaps unsurprisingly the National Museums of Scotland (NMS) and Victoria & Albert Museum (V&A) consider that preservation is a priority for their plastic jewellery artworks, and work towards achieving this. Both institutions hold contemporary pieces that are exhibited both as current evidence of artist jewellery and as part of an historical narrative for jewellery and applied art stretching back literally thousands of years (see fig 57). Newer perspectives within the collections are also emerging, providing further layers of significance. The recent addition of

the Royal College of Art Visiting Artists Collection to the V&A collection, for example, inputs a small but rich layer of meaning. The pieces are created by eminent artists working with plastics, for example, Gijs Bakker (b.1942), Sigurd Bronger (b.1957) and Ramon Puig Cuyas (b.1953). As well as demonstrating the work of the individual artists represented, collectively the objects divulge some principles and philosophy absorbed by more recent artist jewellery generations. The pieces fit into the overall development of contemporary jewellery and also point to the future because these artworks have been made specifically to inspire newer artists. The jewellery in both institutions is recognised as holding artistic and historic values with evidence now and for the future and the multiple histories or meanings the jewellery represents are recognised.³³ That is undeniably that the artworks within these institutions are viewed as evidence for and as a continuity of jewellery history. The institutions acknowledge that works of art have several values simultaneously that interact and are interdependent to enable their study in association with precedents, contemporaries and immediate followers.³⁴



Fig 57. View of the jewellery gallery, National Museums of Scotland

In both institutions great emphasis is placed on the user groups or visitor stakeholder groups because values bound up with the artistic and historic significance of the plastic jewellery (and collections generally) are determined by those who appreciate them. Information that different groups may extract from the jewellery and the resulting functions the objects fulfil are consciously identified.³⁵

³³ Eastop, D. 'Textiles as Multiple and Competing Histories,' Textiles Revealed. Object Lessons in Historic Textile and Costume Research, ed. Brooks, MM. (London: Archetype Publications, 2000) 17-28.

³⁴ Talley, M. 'The Eye's Caress: looking Appreciation and Connoisseurship,' Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Historical and Philosophical Issues in the Conservation of Cultural Heritage, Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 31

³⁵ Muñoz Viñas, Salvador, Contemporary Theory of Conservation, (Oxford: Elsevier, 2005) 177

The educational department at NMS, for example, is drawn into every display of the objects to assist in expressing the meanings of the jewellery for an identified range of visitors.³⁶ Future display of artist jewellery at NMS will have a broader context from when this research was conducted. Once refurbishment of the museum is complete in 2011 there will no longer be a dedicated jewellery gallery. Instead, it is proposed, pieces will be displayed to highlight themes such as technology and materials, alongside other categories of collection items.³⁷ On one hand this will create connections beyond the immediate artist jewellery sphere, but this may also reduce the impact of the jewellery as a coherent collection within the museum. Opinions as to the appropriateness or success of this approach will no doubt differ. The newer approach to display still does, however, consciously present information and contexts of the jewellery to the viewer. The jewellery will continue to be displayed and valued, albeit differently. The V&A, by contrast, have chosen to continue displaying jewellery grouped as a distinct discipline. In developing the newly refurbished V&A galleries a number of focus groups, ranging from artists to casual visitors, were developed to evaluate how they appreciate the information embodied within the artworks.³⁸ Thus the museums aim to address both small and large groups representing specialist interest to general curiosity. Functionally the objects may serve as scholarly evidence, artistic inspiration, tourist attraction and represent economic value.

Preservation is not, of course, an end in itself, but it facilitates, and prolongs where appropriate, access to the information embodied within objects.³⁹ Caring for collections and keeping them in as good a condition as possible enables these diverse stakeholders to bring and develop their individual criteria and standpoints. For preservation to be a priority for the V&A and NMS collections is straightforward to understand because they aim to achieve a balance for the many stakeholders they recognise will use the collections. The artworks have the status of museum objects and are treated as such. In both institutions Clavir and Muñoz Viñas' assertion for the reasons for preservation are borne out; the requirement for intellectual care and physical care are recognised as important and interdependent.

³⁶ Dr Elizabeth Goring, Curator of Modern Jewellery, personal discussion, 6th May 2003.

³⁷ David Cauldwell, Keeper of Scotland and Europe, personal discussion, 17th December 2009.

³⁸ Beatriz Chadour-Sampson, personal discussion, 23rd March 2005

Yet these values bound up and recognised within the artworks are not the entire story. Artist jewellers are formally recognised as a user group in the V&A but with emphasis as museum visitors and there is less evidence to suggest artists are a customary or integral part of the preservation process. Whilst the V&A approach may reveal how artists react to others' work held in perpetuity it tells nothing of their reaction to preservation of their own and how this may correlate to and reveal more of their artistic practice.

Furthermore, the curator of the V&A collection believes so strongly that contemporary jewellery should endure, that it has led to an attitude towards the material content of artworks that may exclude items from the collection. The curator indicated ephemeral items are not added to the collection, inferring that items perceived as short lived are not acquired.⁴⁰ The importance of preservation for the V&A has led to setting potential boundaries for further collecting of jewellery, an activity also led by value judgements. Perhaps unintentionally, as a result of this attitude, a new value is placed on the collection, which is a derivative of others recognised: that of durability. The imposed restriction may also limit the perspectives the collection can exhibit because impermanent works will be overlooked.

The curator's stance further implies that the jewellery artworks currently represented in this collection are not short lived but are durable, at least in the mind of the curatorial department. Whilst the curator may believe the collection is durable the plastic items have, in fact, changed over time. Discrepancy exists between expectation of durability and the reality of the objects. As we shall see the V&A curator is not alone in this respect. Whether the plastic materials that comprise some newer works can deliver this level of durability remains the subject of conservation science. The V&A and NMS are, however, fortunate to have in-house conservators and conservation scientists specialising in plastics, which offer support for preservation. The material content of each plastic piece in the NMS collection, for example, has been analysed and an understanding of the deterioration of such

³⁹ MacDonald G. & Alford, S. 'Museums as Bridges to the Global Village,' Paper presented for the first Global Conference, 'Tourism: A Vital Force for Peace,' Vancouver 23-27 October 1988, quoted in Clavir, Miriam, Preserving What is Valued, (Vancouver :UBC Press, 2002) 28

⁴⁰ Clare Phillips, Curator of Jewellery, V&A, personal discussion, 27th January 2003

materials has been recorded.⁴¹ Environmentally controlled storage and display areas exist. Similarly, at the V&A, recent examination of contemporary jewellery for the refurbished jewellery gallery has led to assessment of the plastic artist jewellery and detailed consideration of their needs for long term display.⁴²

Such conservation resources are not available to all collections and this is where the circumstances that enable preservation in the V&A and NMS, and recognised in conservation literature stop short.⁴³ For the value of objects to be translated to practical preservation measures rather than rhetorical institutional mandate, some knowledge of preservation is necessary. Whilst no institution is perfect, and surely the V&A and NMS do not provide seamless collection care in every respect, the other jewellery collections studied fall further down because familiarity with preservation issues is limited. The Shipley Art Gallery, for example, recognises that the objects embody values through demonstrating a snapshot of craft from the late twentieth century to the present, with an additional emphasis on regional makers. Accordingly the concept of preserving objects is regarded as important to enable access to the information by stakeholders, relevant to this institution. Similar to the V&A and NMS the artworks held at the Shipley Art Gallery are perceived as museum objects. The implications of ignoring preservation of the collection were indeed understood by the curator because she realised that objects are of greater benefit in good condition.⁴⁴

Unlike NMS and the V&A, Curator of the Shipley Art Gallery, cannot call on specialised in-house knowledge. As a result the curator is less well placed to recognise which artworks are at risk of damage and deterioration. Acknowledging she has little conservation knowledge, the curator concedes plastic jewellery objects may well degrade, yet simultaneously asserted that none of the existing jewellery is at risk of instability.⁴⁵ This may be the case, but such a statement

⁴¹ Dr Anita Quye, Senior Conservation Scientist, Dr Elizabeth Goring, Curator, National Museums of Scotland, personal discussion, 6th May 2003

⁴² Joanna Whalley, Senior Metals Conservator, V&A, personal discussion, 7th February 2006

⁴³ Ashley-Smith, Jonathan, Risk Assessment for Object Conservation, (Oxford: Butterworth Heinemann, 1999) 81

Clavir, Miriam, Preserving What is Valued, (Vancouver :UBC Press, 2002) 33

Muñoz Viñas, Salvador, Contemporary Theory of Conservation, (Saint Louis, MO: Butterworth Heinemann, 2004) 177

⁴⁴ Helen Joseph, Curator, Shipley Art Gallery, personal discussion, 4th March 2003

⁴⁵ Helen Joseph, Curator, Shipley Art Gallery, personal discussion, 4th March 2003

cannot realistically be made without considerable knowledge of deterioration pathways of plastics and objects created from them. The curator's knowledge does not match her assertion. Whilst this belief is held, further preservation measures will not be sought for the collection: regardless of the fact they are believed to be important. With the present situation the curator does not know to call upon conservation expertise. In fact the storage methods would benefit from some updating, to ensure consistent use of archival quality storage materials that provide support and protection of structures and surfaces of all the jewellery.⁴⁶

In 2002, Re:source, the predecessor body of the Museums Libraries and Archives Council, noted that, in respect of the general level of conservation awareness in museums, there is 'a surprisingly low level of knowledge and understanding out there. Often people do not have sufficient knowledge and understanding to frame the appropriate questions for the guidance and advice they are seeking.'⁴⁷ The Shipley Art Gallery's circumstances suggest there is accuracy in this statement. Yet, despite not having full knowledge of conservation issues, the Shipley Art Gallery curator does importantly grasp the idea that preservation of the jewellery is beneficial to support the objects. In 2006 the Institute for Conservation attributed a lack of management priority as a fundamental cause for the inadequacies noted by Re:Source.⁴⁸ Although plausible, ICON goes on to insinuate that other aspects of collections are fully functional leaving conservation as an overlooked underdog.

The Crafts Council collection demonstrates that circumstances leading to deficiency in collection care may be more complex. For a time the management did not recognise all conservation issues and this was seemingly caused by a period when there was a lack of clear purpose for the artworks. As a result, for the duration of this research, it seemed it was not just preservation being overlooked but the

⁴⁶ Examined by the author 4th March 2003.

⁴⁷ Re:Source, Collections information and advice in the museums sector. 2002 quoted in: Institute of Conservation, Submission to the House of Commons Culture Media & Sport Committee, Caring for our Collections. 2006, 6 Available at http://www.icon.org.uk/images/stories/downloads/cms_careofcollectionssep06.pdf accessed 7th July 2008

⁴⁸ Institute of Conservation, Submission to the House of Commons Culture Media & Sport Committee, Caring for our Collections, 2006, 6, see above.

physical presence of the collection items as well.⁴⁹ A virtual representation with images of the collection was in danger of taking precedence over the physical items. Here the virtual images were positioned to embody the status of museum object, not the physical manifestations.

Many pieces of plastic artist jewellery in the Crafts Council collection were acquired during the 1970s and 1980s, illustrating that during that period building the collection was an important focus and resources were available to do so. Today acquisitions are intermittent, suggesting fewer resources are now allocated for this purpose. Furthermore, for the ongoing future, the predominant aim for the Crafts Council is to promote new work, current artists and commerce relating to new works rather than reflect on historical aspects of craft in general. The current goal of the Crafts Council aims 'to position the UK as the global centre for the making, seeing and collecting of contemporary craft,' and as 'a national development agency for contemporary crafts.'⁵⁰ Promoting these ambitious aims was in danger of leading to a reduction in value of the physical collection.

Now that its own gallery space is closed the Crafts Council exhibits its artefact collection less often. As an alternative, the Crafts Council invites offers for objects to be loaned to other institutions. From one perspective this is altruistic, offering endless interpretations free from the constraints of the institutional aims. Long term renewable loans are seen key for the future exposure of the collection. Older works in particular are not promoted by the Crafts Council itself but are loaned as a means to supplement other institutions' collections. Perhaps this is a pragmatic future model for museums, with increasingly limited resources, to access new objects. Yet the Crafts Council increasingly relies on others to interpret the artworks they have selected. Without care this could lead to a lack of focus for their established and large collection.⁵¹ Although jewellery items are increasingly loaned the majority of the collection is permanently stored.⁵² Unfortunately, this means on a day to day basis the majority of physical artefacts are not readily accessible by

⁴⁹ Since this research on the Crafts Council was conducted in 2004-08 greater emphasis has been placed on the physical items once more. Birgit Dorendorf, Registrar Crafts Council, personal discussion 17th December 2009.

⁵⁰ <http://www.craftscouncil.org.uk/about-us/> Accessed 12th June 2008

⁵¹ When the collection was examined there was no curator in post.

⁵² Birgit Dohrendorf, Registrar Crafts Council, personal discussion 20th December 2006 & 17th December 2009.

visitors. A request to view the jewellery was initially turned down on the basis that no resources were available.

The Photostore™ web-based archive of the collection, which includes many but not all pieces, is promoted as a means of access to the jewellery, and other collection items.⁵³ This provides thumbnail images of artworks and factual information about artists, and aims to address predominantly researchers and students as a ready reference source for craft. Although comprehensive in some respects the database cannot easily communicate historical or any other perspective regarding the objects and their interactions. The end user must do this via their computer screen. All very well if the user has some awareness of the jewellery discipline but seeing the thumbnail images in complete isolation of other artworks is less instructive for the uninformed student wishing to learn. Arguably the Crafts Council is providing important information about their collection but the design and purpose of this current database cannot replicate the connections possible through exhibition.

Reliance on images, in many circumstances, is a sound preservation measure and is a means to significantly widen access.⁵⁴ Larger numbers of people can view collection items remotely without the need for handling, or possibly permanent display. The V&A and NMS also have image archives on their institutional websites to widen access in just this manner.⁵⁵ Some jewellers are equally aware of the capacity of images to promote and preserve their work. Jeweller Adam Paxon (b.1972) recounts 'I have spent more time thinking about longevity and accurate recording in terms of images than I have of the work itself.'⁵⁶ Capturing the jewellery in a manner, often prescribed by the artist, is a creative practice in itself, and presents the work as it may not be seen when handled or worn. Countless monographs and catalogues provide testament to the expediency of images to

⁵³ The author viewed collection pieces not listed on Photostore™, for example. Caroline Broadhead's *Veil Neckpiece*, yet the website claims to cover every piece.

⁵⁴ MacDonald, Lindsay ed. *Digital Heritage Applying Digital Imaging to Cultural Heritage*, (Oxford: Butterworth Heinemann, 2006)

⁵⁵ http://www.vam.ac.uk/collections/fashion/features/jewellery/through_ages/contemporary/index.html

The V&A website highlights a few contemporary jewellery items, accessed 12th June 2008

<http://nms.scran.ac.uk/?PHPSESSID=oqkoijeusm16mod5b1laqf7tv7>

Similarly the NMS website has a similar scheme in place, accessed 12th June 2008.

⁵⁶ Adam Paxon, personal interview, 19th March 2004

convey jewellery in a durable manner.⁵⁷ Yet as Paxon pondered the point he exclaimed 'I am suddenly realising this is quite a curious approach.'⁵⁸ In his concern to preserve his artworks in a manner that fits with contemporary demands for digital information he realised he has paid no attention to preserving the objects themselves.

A similar oversight was in danger of occurring at the Crafts Council, and the existence of Photostore™ is a reason the objects themselves have been overlooked in the recent past. The artefacts in the Crafts Council collection are largely unseen because access is granted by the Photostore™, meaning their preservation has been overlooked. Even though a consultation of the plastic jewellery was conducted when Christoph Zellweger's (b.1962) *Chain* neckpiece was discovered to have degraded, few ongoing preservation measures were put in place at that time.⁵⁹ When the collection was viewed in 2006, the storage, handling and examination procedures needed upgrading to meet present day best practice.⁶⁰

Within the organisation itself the objects are readily recognised for their value as images and the information these can disseminate. Is it curious to prioritise images over objects within the institution? As Paxon discovered, images may be duplicated many times for wide dissemination whilst only one object generally exists. The Crafts Council could focus upon a virtual collection as it continues to promote itself as a working up to date reference source. Unwittingly they have revealed that images can be more functional and manageable than objects. Positioned within these arguments reliance on images certainly has merit.

Art historian and critic Talley contends that the primary reason an artwork is valued is due to its aesthetic considerations or the artistry that it embodies. A quality that is necessarily subjective and is evident on looking but sits over and above the

⁵⁷ Fayet, Roger & Hufnagl, Florian, Bernard Schobinger Jewels Now! (Stuttgart: Arnoldsche Art Publishers, 2003)

Housten, J. Caroline Broadhead, Jewellery in Studio, (London: Bellow Publishing, 1990)

Lucie Smith, Edward, Wendy Ramshaw/ David Watkins Schmuck/Jewellery, (Pforzheim: Schmuckmuseum, 1987) 54-55

Peters, Ruudt. Change, (Amsterdam: Voetnoot. 2002)

⁵⁸ Adam Paxon, personal interview, 19th March 2004

⁵⁹ Fielding, A. 'Perish the Thought,' Museum Journal July (2001): 20-21

⁶⁰ Viewed on 20th December 2006

documentary value of the information the objects hold.⁶¹ To emphasise the documentary content of an object reduces it almost solely to the status of purveyor of information. In his opinion any documentary information should always be second to aesthetic considerations. When this research was first conducted the Crafts Council appeared to have interpreted this opinion literally. The images in Photostore™ merely seemed to demonstrate the aesthetic impact of the objects, not acknowledging the historical context and connections between many of the artworks shown. Almost no documentary value is demonstrated by this method of presentation. The status of the physical objects is diminished whilst the image takes precedence.

Since the original research was conducted at the Crafts Council, a more balanced approach to both the use and care of the physical collection and the application of virtual means of presentation has developed.⁶² A programme of virtual exhibitions are presented on the website which, when used in conjunction with data in Photostore™, may permit the end user greater connections and perspectives to be identified and reflected upon than previously.⁶³ As already mentioned in chapter 1, one of these exhibitions involves Christoph Zellweger's *Chain* neckpieces and issues surrounding their deterioration. The project is more fully described in chapter 7, (conclusion). What is evident is that the physical collection is beginning to be utilised for a broader purpose than the Photostore™ database alone. Moreover, a greater number of loans and uses of jewellery items has developed through increased promotion and an expanding exhibitions programme in association with other institutions. Access to the physical collection is improved to a degree. During 2010 the physical collection is due to undergo an audit where its condition will be assessed, since its removal to a new storage facility. Presumably the audit will expose amongst the items immediate preservation issues needing addressing as any active deterioration at least will be evident. Further images will also be generated for the Photostore™ during the audit process. These images will be used to supplement and update the current level of information available. What is emerging in 2009 is a mixed economy where both the physical and the virtual

⁶¹ Talley, M. 'The Eye's Caress: Looking, Appreciation and Connoisseurship,' [Historical and Philosophical Issues in the Conservation of Cultural Heritage](#), Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 2

⁶² Birgit Dorendorf, Registrar Crafts Council, personal discussion 17th December 2009.

⁶³ <http://www.craftscouncil.org.uk/collection-and-exhibitions/exhibitions/online-exhibitions/>
Accessed 18th December 2009

presentations of objects are deemed important and support each other to mutual benefit.

The Crafts Council still stands in contrast to the V&A and NMS who display their objects more permanently in galleries whilst also employing virtual methods as an adjunct to objects in galleries. In all probability the Crafts Council, given their current set up and resources, will have considerable emphasis upon virtual presentation of their collection now and in the future. Digital preservation for historic objects remains in its infancy, more so than libraries and archives, where constant research is being frantically undertaken.⁶⁴ Possibly the Crafts Council may yet emerge as an innovator of virtual interpretation of applied art objects. For now the Crafts Council is highly unlikely to dispose of their artefacts to concentrate on purely virtual sources. At least for the immediate future a balance between the physical object and its virtual self is more apparent. The first rush to create virtual access amongst other causes led to the physical collection and its care being overlooked. How this balance may continue to alter remains a point of conjecture and of ongoing interest.

The materiality of the objects in the Crafts Council collection has experienced shifts in value over its 30 year history. For the International Contemporary Jewellery collection held by Middlesbrough Institute of Modern Art (mima) the same is true albeit for different reasons. Attitudes towards the collection similarly changed but here the value has continually broadened causing preservation to be prioritised for the first time, having at first been overlooked. The objects have increasingly attained the status of museum artefact over time meaning that preservation is now desirable. Here too the function of jewellery as wearable artefact has some significance. What is noteworthy about the mima collection is not so much that the value of the objects increased over time but that it took so long, even though the collection was placed in an artistic and historical perspective soon after it was started. As a result damage and deterioration has occurred that might otherwise be reduced and lost evidence might still exist.⁶⁵

It was the prominent craft critic, curator and writer on contemporary jewellery Ralph Turner who initially steered the content of mima's jewellery. He sought new

⁶⁴ <http://www.life.ac.uk/> Accessed 18th December 2009; <http://www.planets-project.eu/> Accessed 18th December 2009

⁶⁵ Examples of these are discussed in the following chapters.

developments in the artist jewellery field that represented 'a democratic ideology which reinforced jewellery's position as a free form of creative expression.'⁶⁶ The mima collection reflected current stimulating developments producing works that were previously unimaginable, using plastic material in particular. During its initial two decades of existence, therefore, the mima jewellery collection was available for trying on and handling. Written accounts provide descriptions of how this handling allowed full engagement and better understanding of these challenging artefacts, even by experts such as Caroline Broadhead already knowledgeable in contemporary jewellery.⁶⁷ The value of the collection was to promote artist jewellery as a movement in progress and a source of inspiration. No thought was given to any future role.

With passing time the initial attitude changed and during the late 1990s - the exact moment is unrecorded - handling ceased. In the curator, James Beighton's, mind the change of function also represented a change in status for the objects. This was a turning point in realising not only the perceived present day significance of the collection but also a desire to ensure its future. He notes 'there was a blissful ignorance in the early days...I suppose once we became aware of how essential this collection was to interpreting the New Jewellery movement there became a greater need for preservation.'⁶⁸ The jeweller and member of the mima selection committee Jane Adam (b.1954) emphasises the reasons for the status change, explaining 'the jewellery at Middlesbrough is now so valuable and nobody ever thought it would be. These pieces are now so important.'⁶⁹ Jeweller and collector, Paul Derrez (b.1950), whose work is in the collection, finds the situation tests his credulity but still acknowledges 'I am part of the history. It's amazing how things made in the 1970s and 80s become collectors' items with substantial value'.⁷⁰ Jeweller Wendy-Sarah Pacey (b.1972), meanwhile, provides evidence that the mima collection still inspires and excites more recent generations of jewellers with her emotional response, 'I didn't know the Gijs Bakker Dewdrop piece was there and she let me put it on. I

⁶⁶ Wilson, Shelagh, 'Redefining Jewellery? The Non-precious Jewellery Collection,' Jewellery Innovations, (Middlesbrough: Cleveland Craft Centre, 1986) n.p

⁶⁷ Broadhead, Caroline, 'Cleveland Jewellery Collection a Personal Response,' International Contemporary Jewellery (Middlesbrough: Cleveland Crafts Centre, n.d.) n.p.

Goring, Elizabeth, 'Giving Substance to Vision,' International Contemporary Jewellery. (Middlesbrough: Cleveland Crafts Centre, n.d.) n.p.

⁶⁸ James Beighton, Curator of Craft mima, personal discussion, 2nd February 2006

⁶⁹ Jane Adam, personal discussion, 22nd October 2005

⁷⁰ Paul Derrez, personal interview, 13th November 2006

thought I can't believe I am wearing it, I can't believe I touched it and it's the one in the book. I was nearly crying.'⁷¹

The early acquisitions at mima demonstrate especially striking changes in the jewellery artist discipline along with the new application of plastics. But equally what the collection represents is part of a continuous development of jewellery more generally. New artworks cannot exist without the preceding artefacts building, reacting and critiquing what came before.⁷² In the early days the custodians at mima could only recognise the artistic value of the works, the associated history was lost on them. As museums studies lecturer Kavanagh notes there exists a danger that people are viewed as historical figures operating solely within the historians range of interest and not owing to any other network, connection or relationship.⁷³ In this case study it is not people but objects to which this idea applies. The wearable function of jewellery also played a role. Succumbing to the overwhelming desire to try on these, sometimes visually challenging, objects appeared to be the most stimulating way to encounter the objects in the collection. Yet this practice goes entirely against the remit and policy of the vast majority of publicly funded institutions even within the 1980s. Disregarding the historical context of the jewellery perhaps enabled wearing to be undertaken free of doubt and constraint.

Of course recognition may often only come in retrospect and this is clearly what has occurred at mima. Pacey certainly provides evidence that preserving the collection is of benefit to future generations, a fact that was only later realised. Her statement reveals more, however. Pacey was allowed to wear the objects even when the Dewdrop necklace was familiar and admired at least by other artists. Furthermore, the book she refers to demonstrates that mima's collection was given serious academic critique and shaped as an artistic movement only three years after the collection was established. *The New Jewellery Trends and Traditions*, co-authored by Peter Dormer and Ralph Turner was first published in 1985.⁷⁴ A significant number of collection pieces are featured within it and the book is acknowledged as

⁷¹ Wendy-Sarah Pacey, personal interview, 1st March 2004

⁷² Reigl, Alois, 'The Modern Cult of Monuments: Its Essence and its Development', *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 69

⁷³ Kavanagh, Gaynor, *History Curatorship*, (Leicester: Leicester University Press, 1990) 63

⁷⁴ Dormer, P & Turner, R. *The New Jewelry, Trends and Traditions*, (London: Thames & Hudson, 1985)

'seminal' by NMS jewellery curator Dr Elizabeth Goring.⁷⁵ Moreover, Dormer and Turner's book supplied the focus and title adopted by jewellers, critics and curators alike for the transformation of artist jewellery since the 1960s, 'New Jewellery'.⁷⁶ Hence, the initial merits the jewellery was seen to possess were quickly broadened and debated after the jewellery was created and acquired. Despite the recognition the publication brought the mima collection the jewellery continued to be viewed as if detached from jewellery history- the very history that these artists were reacting against - and that partly encouraged this new work. Whilst the theoretical history of artist jewellery was being constructed and presented as a way forward, its physical evidence, the jewellery itself, was not seen as sufficiently important to survive into the future. Given the prominence of Turner's book the recognition that prompted a desire for preservation of the collection, in the late 1990s, seems a surprisingly long time in coming. Handling and a lack of general collection care has, unfortunately, led to damage and deterioration of collection items.

A further reason for the long period of deficient collection care at mima is lack of knowledge regarding preservation measures that seems recurrent in the jewellery discipline. Similar to the situation at Shipley, aspiring to preserve items is very different from being in a position to do so. Preservation was possibly not a priority because it was not a familiar concept. Even when preserving the collection was recognised as a priority and its status accordingly altered no action was taken to do so other than restricting its handling. Until 2007, when the new mima building was completed, the collection was stored in crowded conditions in a plan chest sited against a damp wall (see figs 58 & 59). The plastics therein remained unidentified, largely undocumented and so their relative risks to damage and deterioration unrecorded. It does not help that the conservators employed on site are trained in paper and are unfamiliar with plastics and jewellery and tend to prioritise more familiar paper artworks, also present at mima.⁷⁷ Although the situation has been improved, attitudes toward how collection care can and should serve the jewellery at mima remains ambiguous as will be demonstrated in chapters 6 (see fig 60).

⁷⁵ Dr Elizabeth Goring, Curator of Modern Jewellery, personal discussion, 6th May 2003.

⁷⁶ Goring, Elizabeth, 'Giving Substance to Vision,' International Contemporary Jewellery, (Middlesbrough: Cleveland Craft Centre, n.d.) n.p.

⁷⁷ Three conservators employed at mima during the research were trained in paper conservation.



Fig 58. mima building opened 2007



Fig 59. View of storage area and crowded uncontrolled conditions for jewellery prior to the new mima building



Fig 60. View of the storage area and more appropriate conditions within the new mima building.

There is little ambiguity in the attitudes encountered toward preservation of the private jewellery collections studied. With no civic remit they are free to manage their collections as they see fit and they contrast with the public institutions because none believed that preserving their significant collections was particularly important, whether they had expertise to achieve it or not.

Paul Derrez was emphatic in his opinion stating 'we have several pieces that disappear, fall apart in an irreversible process. It's a pity but not so dramatic.'⁷⁸ Derrez's collection has changed in status over time, as mima experienced, but with a differing outcome. Originally he and his partner intended to wear the items but later realised that the collection held too many pieces to achieve this and that

⁷⁸ Paul Derrez, personal interview, 13th November 2006

tracking the artists' now long careers was more worthy of note. Thus the significance of the collection shifted from one of useable adornments to appreciating intellectual content more fully. Similar to mima, Derrez's collection has experienced a change in status over time. The artworks are now perceived as historical documents as well as wearable items and so their value to Derrez has altered and widened. Despite this realisation, preservation is not desired or even acknowledged as an interesting concept by Derrez when it was discussed.⁷⁹ He remained charming but nonchalant toward this conservator when interviewed. Ostensibly the collection is amassed for his personal pleasure and desires, the benefit to future generations is not even considered. As such Derrez's collection is far from attaining the status of museum object, even if they are no longer worn.

Equally the Marzee Collection believed that if a work degrades then life and times 'move on'.⁸⁰ Admitting that no resources are available for preserving the collection other than storage drawers lined with wool fabric (disastrous for the silver pieces) on the top floor of the gallery, the collection receives no formal care and no assessment had been made of damage and deterioration present (see fig 61). A number of pieces exhibited deterioration. In addition to this display, artworks in the collection are used for handling and educational sessions such as art valuation, and on occasion wearing by owner the van den Hout and selected individuals.⁸¹ Collection Marzee feels free to use pieces at will to expound their function but ultimately disregards future collective appreciation of plastic jewellery. Collection Marzee seems untroubled by potential loss of pieces and their embodied evidence in the long term. Similar to the Crafts Council, Collection Marzee exhibits uncertainty as to the purpose of the collection. Torn between the desire for a scholarly assemblage of work and an overwhelming urge to use these tactile items, van den Hout attempts to satisfy public and private objectives. If personal objectives were a priority then wearing the collection items is understandable. Attempting to present a comprehensive collection for intellectual pursuit implies a civic minded duty for which preservation is appropriate to ensure maximum benefit.

⁷⁹ Paul Derrez, personal interview, 13th November 2006

⁸⁰ Lotte Klösters, Gallery Assistant, personal discussion, 1st December 2006

⁸¹ Lotte Klösters, Gallery Assistant, personal discussion, 1st December 2006

'Jewellery, the Choice of the European Parliament' Marzee Magazine 28 June-July (2004): 14-15

'The Choice of' Galerie & Collection Marzee, (Nijmegen: Galerie Marzee, 2004) 106-117



Fig 61. View of the storage and display area at Galerie Marzee

Meanwhile, the Koch Collection provides a statement that can be read as a proclamation and acceptance of inevitable deterioration of the objects within. It reads

'one has to bear in mind, that in the field of jewellery from its very beginnings in pre-historical times and throughout the ages, organic materials and those materials that disintegrate have always been used in the making of jewellery, some have not stood the test of time, but were obviously representative of certain ideas.'⁸²

The statement is in fact placing plastic materials, which may not be long lasting, in an informative historical perspective. By acknowledging that plastics may degrade in the way that other jewellery making materials have, is to emphasise the role of non-precious materials in jewellery generally. Artist jewellers from the 1960s selecting plastics were original in some ways but were still building on practices that existed in previous millennia. All the more reason, however, to actively preserve such items as evidence of current practice because, after all, nowadays some means and knowledge exist to prolong the lifespan of less stable materials. Any historical value of the collection and its continued presence to make connections between pieces of art has yet to be translated into a desire for the works to last.

These three private collections appear to celebrate collecting free of preservation constraints and exhibit a tendency to exist eternally in the present, accepting the

⁸² Chadour-Sampson, Beatriz, Unpublished Collection Statement Alice & Louis Koch Collection of Finger Rings, 2004.

effects of deterioration and damage as they occur. Their present status appears similar to the original objective of *mima* to present contemporary jewellery advances as they occur, but their objectives have remained narrower over time. Perhaps this is because the central stakeholders in each case are entirely in control. Historical and artistic significance is naturally present within the pieces but is only valued for and by the current owners. Further stakeholders and functions for the Derrez and Koch collections, in particular, are limited since the pieces are rarely seen. Future stakeholders appear irrelevant.

Moreover, compared with the current acquisition level of public collections studied these three private collections are purchasing far more pieces. Although seeming to serve only personal objectives of the owner, the contribution these private collections can add to the overall and ongoing presence of plastic artist jewellery is highly significant and growing. Furthermore, knowledge is increasingly available to slow the inevitable deterioration of all materials, including plastics. Even merely on economic grounds, disregarding the future of this jewellery seems short sighted. Whether a lack of familiarity of the conservation profession is a factor remains to be seen, since the present research introduced the profession to them. Certainly the present attitudes of these private collections do not actively encourage future histories and perspectives of the jewellery.

From a standing start in the late 1960s plastic artist jewellery has gained a significant profile in collections generally as material evidence of a now established artistic discipline. The values the objects represent are manifold and lie in complex layers. Although there is no shortage of recognition of the overlying significances today, and a realisation that these change over time, it has not led to a desire for preservation in every case. The short history of plastic artist jewellery since the late 1960s is undoubtedly a factor. The significances embodied within the artworks are still developing and have, in cases, been initially overlooked as they unexpectedly emerge. Even where preservation is recognised as desirable its application is variable. As demonstrated by the Crafts Council, objects themselves may get superseded through technological advancements and a paucity of resources. Understanding the purpose of a collection is also crucial to determine how its future should be shaped. Private collections cannot be told what to achieve but it seems unsettling that their preservation is regarded as irrelevant and meaningless at present, given the richness of their holdings. The survival of contemporary plastic artist jewellery in collections is not entirely supported. If conservators and their

associated knowledge is an unknown entity it is not, however, just the shortcoming of the curator. Perhaps most importantly the conservation profession needs to become more visible and familiar in the realm of artist jewellery.

4.3 Preservation - The Artists' Perspective

Preventive measures are in place for some major public collections to prolong the lifespan of pieces. In other collections, preservation may currently be less of a priority and plastic jewellery may not be subject to policies designed to delay deterioration or prevent damage. What is noticeable in both scenarios is that the actions of the custodians contribute to the future prospects of the jewellery, supporting the value systems they are seen to embody, yet do not apparently take account of any artist opinion. No curator consulted actually acknowledged that artists could play any part in their objects' lives other than provide basic information regarding components and manufacturing methods. The V&A actively promoted artists as an end user of a museum collection but left artist involvement in the lifespan of their works off the record. Professor of Conservation, Debra Hess Norris pragmatically declares 'not all contemporary art will survive' but equally contends 'nor is it intended to' inferring that artists have a position on this issue.⁸³ Certainly some Fine Artists betray strong opinions as to whether their works endure or not. Damian Hirst investigated and has now replaced the formaldehyde cocooned shark in his infamous work *The Physical Impossibility of Death in the Mind of Someone Living* because it started to show deterioration.⁸⁴ Joseph Beuys, on the other hand, declared 'I don't give a damn' when asked about the care of *Felt Suit*, held in Tate Gallery.⁸⁵ Choosing to apply preservation measures, or not, for plastic jewellery in collections when the artists' opinion has not been recorded, arguably makes assumptions on their behalf. Artist jewellers also hold opinions on the matter.

Much physical and historical evidence exists to substantiate that, in practice, historic jewellery did not endure. Historical jewellery now residing in public and private collections is naturally a mere fraction of that produced, but more so, because much was remodelled. Art historian, J. F. Hayward proposes that, during the sixteenth century, a goldsmith could only expect his work to last thirty years

⁸³ Hess Norris, Debra, 'The Survival of Contemporary Art: The Role of the Conservation Professional in this Delicate Ecosystem,' *Mortality Immortality? The Legacy of 20th Century Art*, (Los Angeles: Getty Conservation Institute, 1999) 133

⁸⁴ Ruiz, C. & Harris, Gareth, 'Damien Hirst in Talks to Replace Rotting Sharks,' *The Art Newspaper* 27 June 2006 available at www.theartnewspaper.com accessed 10th July 2007

⁸⁵ Bracker, Alison & Barker, Rachel, 'Relic or Release, Defining and Documenting the Physical and Aesthetic Death of Contemporary Works of Art,' *Preprints of the 14th ICOM-CC Triennial Meeting*. (London: James & James, 2005) 1009

before remodelling occurred.⁸⁶ By comparison, Hayward calculates, that a painter of the same period could expect his creation to enjoy a much longer lifespan, especially as its component materials are less readily recycled. Materiality of historic jewellery, manufactured from easily reused precious metals and gemstones, is undoubtedly a factor.⁸⁷ The dynamic social functions of jewellery throughout past centuries, however, provide the rationale and impetus for this recycling. Jewellery was variously and interchangeably regarded as fashionable accessory, asset and economic buffer and status symbol.⁸⁸ Modifications to current roles and hence the existing configuration were further influenced by damage, newly emerging styles or even political instability.⁸⁹

Theoretically, recycling of the plastic present in artist jewellery is also possible. The process of reclaiming and reuse is, however, far less straightforward within an artist studio than the process for reusing gold. Instead an industrial unit is better equipped for the process.⁹⁰ Furthermore, the lower monetary value of plastic, relative to precious metal, determines that recycling is unlikely to be feasible economically, particularly on the scale of individual jewellery pieces. Whilst occasionally jewellers such as Adam Paxon (b.1972) reuse components rejected from earlier attempts, plastic artist jewellery is, in all probability, likely to meet its end via deterioration or damage.⁹¹

American jeweller Jan Yager (b.1953) who works with recycled found plastic components, has playfully speculated that her work may actually last longer because its nylon and rubber materials represent less monetary value. She anticipates 'historically materials that last are also tempting to melt down and recycle, so perhaps a profound idea and no reusable value has better chance of lasting?'⁹² Importantly for this discussion, Yager's musings also imply that artistic meaning is a factor that may encourage an object's preservation. As was

⁸⁶ Hayward, J. E. Virtuoso Goldsmiths 1540-1620 & the Triumph of Mannerism, (New York: Sotheby Parke Bernet Publications, 1976) 32

⁸⁷ Johns, Catherine, The Snettisham Roman Jeweller's Hoard, (London: British Museum Press, 1997) 46

⁸⁸ Cellini, Benvenuto, Autobiography, Trans. George Bull. (London: Penguin Books, 1956)

Kurin, Richard, 'The Hope Diamond Gem, Jewel and Icon,' Exhibiting Dilemmas Issues of Representation at the Smithsonian, Ed. Amy Henderson, Adrienne, L. Kaeppler. (Washington: Smithsonian Institution Press, 1997) 47-69

⁸⁹ Fitzgerald, E. M. ed. Correspondence of Emily, Duchess of Leinster 1731-1814, 1, 49-50

⁹⁰ Colin Williamson, Director Smile Plastics, Personal discussion, 26th January 2005

⁹¹ Adam Paxon, personal interview, 19th March 2003

demonstrated when preservation within jewellery collections was discussed above, the artistic value of plastic artist jewellery is often highly regarded, sometimes more so than other factors such as historical value. Yager may have identified a crucial and ironic factor for the survival of plastic artist jewellery in the future even if this is accidental rather than intentional ultimately. Plastic artist jewellery may survive longer than some historical or contemporary counterparts due to material content, much like paintings in Hayward's assessment. (This is of course assuming the plastic material is relatively stable and applied in an appropriate configuration.)

The artist's name also becomes a focal point by which a piece is identified. As Yager projects, possibly the unique and powerful meaning and associated name of an artist jeweller encourages an artwork to be not only collected but also maintained, as far as practicable in its original state, over time. Artistic practice almost certainly promotes self-awareness and reflection on the part of the artist. The personal energy placed by artists onto plastic materials and their jewellery artworks, is exemplified by the emotive response of Wendy-Sarah Pacey (b.1972). Pacey stated: 'I would prefer it to last, it's very bound up with emotion. I couldn't work knowing things may crumble or fall apart. I actually find it really upsetting. I don't feel as though I am putting myself into my work but I guess I am. That's made me feel quite upset.'⁹³ The connection Pacey feels with her PMMA jewellery is deep and her desire for her artworks to last is tremendously significant to her. An important feature of Pacey's work is her desire to have an ongoing connection with the jewellery. She is certainly not emotionally detached from her output, instead firmly positioned within it. Further substantiation for the importance of self in her work, is the belief that plastic materials offer far greater versatility than precious metals and gemstones. She uses her material choices to accentuate her position as an artist. *Cascade Earrings*, 2002, forces the wearer to consider the relative prominence between PMMA and gold and gemstones (see fig 62). Comprising laminated and carved organic PMMA shapes hung in two long strands, semi-precious stones set into gold are hung inconspicuously amongst them. Pacey designed and made the PMMA parts herself, but was happy to outsource the stone setting, and this reflects the status in which she holds the two components.⁹⁴ The PMMA components represent her artistic originality and input whereas the stone setting is a conventional technique worthy of far less attention. Pacey's sees her viewpoint as a

⁹² Jan Yager, correspondence by email, 10th November 2003

⁹³ Wendy-Sarah Pacey, personal interview, 1st March 2004.

⁹⁴ Wendy-Sarah Pacey, personal interview, 1st March 2004

contrast to a 'traditional' view where the parts with the greater financial value were prized more overall. As tiny accents to the piece, the conventional marquise cut stones are easily superseded by the plastic confirming, in her mind, both the superiority of the material and the imaginative creativity of an artist over artisan.



Fig 62. Wendy-Sarah Pacey, *Cascade Earrings*, 2002 (PMMA, metal foil, gold, gemstones) artist's collection

Such is the strength of the relationship with her work, that Pacey constructs a one sided viewpoint. She solely considers her perspective as an artist, thus positioning herself as the prime stakeholder and eternal overseer, even when her jewellery is sold. Pacey explains 'I would like to sell to someone I know and that it's going to a good home. I would want to chat to them and take their address and find out about them...I would find it hard to sell jewellery to someone I did not like.'⁹⁵ Acquiring Pacey's jewellery is attaining a piece of the artist herself, so perhaps loss of the work over time due to damage and deterioration would also seemingly cause personal injury.

Pacey's explicit standpoint on the preservation of her artwork raises an issue regarding responsibility of preservation and durability of jewellery artworks. Despite

⁹⁵ Wendy-Sarah Pacey, personal interview, 1st March 2004.

the effusive personal input to her work, Pacey appears to place less responsibility on herself to produce works that are durable, than others who acquire and then must care for them indefinitely. The Berne Convention for the Protection of Literary and Artistic Works, ratified in 1928 and moral rights of artists enshrined in the UK in 1988, certainly supports the view that artists legally hold rights over their work into the future, thus holding some influence over their fate. Artist permission is not needed to preserve or conserve a work of art. In the USA, however, cases that have invoked artists' rights generally relate to damage of an object caused by negligence, suggesting responsibility for supporting an object's lifespan does lie entirely with the owning party. Possibly this may further encourage the weighted views like Pacey's. Only debates rather than laws exist to examine how a collector or conservator may react in the face of artists' rights and there is less to protect them legally when faced with a failing artwork.⁹⁶

Yet as Damien Hirst discovered when his formaldehyde immersed specimens showed degradation, a lack of understanding of long term material behaviour does deflect back to the originating artist; issues of artist input shall be revisited later in the thesis.⁹⁷ Furthermore, in the face of limited resources, not all collectors may wish to risk acquiring works where durability is not prioritised by the artist, as demonstrated by Clare Phillips at the V&A. Fortunately Pacey's work has been collected by the NMS, who seek to preserve their plastic artefacts as a priority, but this is by chance not design. Pacey is fortunate that on being acquired her work has been endowed with the status of museum object and so will be preserved. With other collections Pacey may find her views less supported. Documenting Pacey's imbalanced stance emphasises not only how artist input may or even should influence decision making for preservation but also forms evidence of her practice as an artist and the significance of herself in the legacy she creates.

Reigl states that in his opinion 'we' as in stakeholders, as opposed to the artist, have turned artworks into monuments for our own purposes. He believes the artist rarely intended the work to last and did not intend to leave such evidence of their

⁹⁶ Garfinkle, A. M. Fries, J. Lopez, D & Possessky, L. 'Art Conservation and the Legal Obligation to Preserve Artistic Intent,' Journal of the American Institute for Conservation, 36 2 (1997): 165-179
Lennard, Frances, The Impact of Artists' Moral Rights Legislation on Conservation Practice in the UK and Beyond, 14th Triennial Meeting of the International Council for Museums Conservation Committee, The Hague, Netherlands, 12-16 Sept 2005, (London: James & James, 2005) 285-290.

⁹⁷ Ruiz, C. & Harris, Gareth 'Damien Hirst in Talks to Replace Rotting Sharks,' The Art Newspaper 27 June 2006 available at www.theartnewspaper.com accessed 10th July 2007

endeavours.⁹⁸ Pacey demonstrates that this is not a universal standpoint and undermines Reigl's view. Only one artist consulted during the research concurs with Reigl's view, Paul Derrez (b.1950). As a practising artist and collector, Paul Derrez deflects the responsibility and decision making for preservation away from himself. Reigl's opinion, in this case, is upheld. It is true to say that the author's desire, as a stakeholder, to preserve Derrez's (and others) work is after all the reason for this thesis. Possibly the author is imposing her view on Derrez and remains surprised by his general disinterest in the process. On the other hand it brings into question the rationale behind Derrez's artistic endeavours. His standpoint implies he makes his jewellery entirely and only for himself, anyone else and their opinion is irrelevant to him. As a collector of others work, and now for intellectual purposes, it would appear that Derrez does in fact participate as an interested stakeholder in other artists' work. Yet he refuses to acknowledge he may be the focus of interest for others and certainly will do nothing to ensure his pieces may endure for the sake of others.

When asked if his jewellery is intended to last Derrez answered 'not always', when pressed for further explanation he noted 'it depends how important people find the piece, if they don't find it so important they throw it away.'⁹⁹ His opinion does at least reflect the diversity of stakeholders because he implies that differing people may not hold similar opinions. His stance also illustrates that the significance of an object is changeable, depending upon circumstances and he is inviting this to occur. Derrez acknowledges that some custodians of his work may well value it sufficiently to keep and care for it but others may not. For him the preservation of his work is meaningless, seemingly the objects hold little value for him after he has created them. From his point of view Derrez insinuates that a conservator's approach is unnecessary. Possibly the idea of preservation adds an unwanted layer to his work, because it is complex and he asserts 'I am interested in the creation of things.'¹⁰⁰ Being concerned with the unending preservation process, which is a relatively unknown entity for Derrez, may well detract from the energy he puts into new work.

⁹⁸ Reigl, Alois, 'The Modern Cult of Monuments: Its Essence and its Development' Stanley Price, Nicholas, Historical and Philosophical Issues in the Conservation of Cultural Heritage, Kirby Talley jr, M., Melucco Vaccaro, Alessandra eds. Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 72

⁹⁹ Paul Derrez, personal interview, 13th November 2006

Outwardly Derrez may hold a modest stance regarding his place within the history of artist jewellery but his disinterest has implications for those who chose or will choose to preserve his work. The fact that he appreciates objects only for the present day implies his materials and constructions are chosen for immediate impact without reflecting on long term behaviour. Derrez also reveals, as Pacey did, that the lifespan of the work is not his responsibility. If something starts to show deterioration he commented 'I find it a pity for the museum'.¹⁰¹ His attitude is not so much pragmatic, given the potentially short-lived elements of the rubber components in his work, but an apparent refusal to connect. At the same time he is unable or unwilling to see an historical perspective for the discipline even though it is now recognised in other quarters, as his earlier comment regarding the mima collection revealed. His attitude relates not just to his personal output because, as we have seen, he applies the same attitude for the large and significant collection of artist jewellery he owns. Moreover, if he were not so well renowned and represented within the discipline through his highly visible work through Gallerie Ra it would be revealing to see if he held the same opinion. Derrez stands out amongst the interviewees during the research because the values he attributed to his work is limited to the creating process.

Derrez's opinions puts emphasis on the question: does preservation of the recent past matter, particularly when the artists are not interested? Derrez unwittingly aligns himself with attitudes encountered in First Nation North American cultures whereby objects are created to be used and when they are damaged and worn out, new ones are created.¹⁰² In both scenarios, however, the objects are acquired by collections with the intention of preserving them. Moreover, Derrez is still a working artist jeweller, leaving him reluctant to see in retrospect, even though he was an early pioneer with plastics. The experiences of two other early innovators illustrates that preserving recent objects is essential. In addition to the outcome of enriching cultural heritage for collection user groups it can also enable artists to reassess their own practice, perhaps at last realising their place within the discipline. What is important in the context of this discussion is that collections are seen to support artist development.

¹⁰⁰ Paul Derrez, personal interview, 13th November 2006

¹⁰¹ Paul Derrez, personal interview, 13th November 2006

¹⁰² Webster, G. 'Conservation and Cultural Centres: U'Mista Cultural Centre, Alert Bay, Canada' Symposium '86: The Care and Preservation of Ethnological Materials: Proceedings, Ed. R. Barclay, M. Gilberg, J. McCawley, T. Stone.(Ottawa: Canadian Conservation Institute, 1986) 77-79

Jewellers and contemporaries Caroline Broadhead (b.1950) and Julia Manheim (b.1949), worked with plastics shortly after Derrez's first experiments. What is different from Derrez is that Manheim and Broadhead now create sculptural and performance works, respectively, leaving them freer to look back to their earlier jewellery work and re-evaluate it. Manheim readily admitted 'I didn't have longevity in mind, but if someone was going to buy it I would not want it to fall to pieces but, on the other hand, I wasn't thinking of it surviving into the next century.'¹⁰³ Broadhead concurs by expressing 'I did not at all consider longevity. I have just done my best to make them as solidly as possible but that hasn't always been the top of the list, its much more about exploring the idea.'¹⁰⁴ Their work was concerned with the present, in reaction to the conventions of precious jewellery, which they sought to disrupt through using plastics. Now in the latter halves of their artistic careers, their opinion is changed. Preservation is today, for them, welcome because unintentionally their jewellery has lasted a number of decades. Manheim, in characteristic understatement expressed 'it's very nice it's in collections and that people think it's worth having.'¹⁰⁵ Like Derrez, she is content to leave its guardianship entirely to others. More intuitively Manheim also realises that the continued existence of her early works enables greater appreciation of her practice and development that memory or writing cannot achieve. 'I pull something out, unwrap it and actually am quite delighted with it. Surprised that I have actually made it quite well or that it still looks fresh.'¹⁰⁶ Continued existence of pieces not only can gratify her, but others too.

On seeing an immaculate example of a nylon tufted bracelet at the Shipley Art Gallery Broadhead similarly re-evaluated her past work. Having long since realised the limitations of the applied dyes on her nylon work, as seen on faded examples in mima, National Museums of Scotland and now the V&A, she was prompted to exclaim 'I like this one pristine. There is something thrilling about it lasting, actually still being the same' (see figs 63 & 64).¹⁰⁷ Moreover, she was able to reflect on how she has matured in attitude becoming more accepting of her own position as an artist, 'I would have reacted in horror in 1979 when I sold it to think that it might

¹⁰³ Julia Manheim, personal interview, 24th November 2003

¹⁰⁴ Caroline Broadhead, personal interview, 25th November 2003

¹⁰⁵ Julia Manheim, personal interview, 24th November 2003

¹⁰⁶ Julia Manheim, personal interview, 24th November 2003

¹⁰⁷ Caroline Broadhead, personal interview, 25th November 2003

reappear and look exactly the same, now I am very proud of it.¹⁰⁸ Furthermore, viewing impaired examples cannot provide the same level of information or accurate interpretation. A rare piece in good condition illustrates the importance of preservation measures in museum collections as well as highlighting the propensity for plastics artefacts to change. Historical value is seen to emerge beyond the artistic value. The artists have realised they depend on museums and collections to assist in this process and again works attaining the status of museum object is significant to the process.

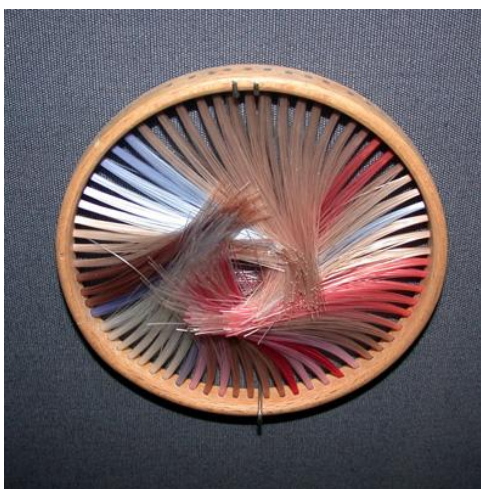


Fig 63. Faded example of Caroline Broadhead, *Tuft Bracelet*, 1980 (nylon, wood) National Museum of Scotland



Fig 64. Faded example of Caroline Broadhead, *Veil Neckpiece*, 1983, (nylon, textile dye) V&A.

Both artists are fortunate in having museum and collection professionals who deemed their work more worthy of preservation than they originally did. Broadhead and Manheim are free to adjust their own outlook later in life once others placed them within jewellery history. The onus here was on the collectors acting independently in spite of the nonchalant attitude of the young artists. The museum becomes facilitator rather than merely guardian, fully implicated in the ongoing interpretation of the artwork and working on behalf of the artists.

In the preface of *Modern art who cares?* a foremost publication to discuss the plight of Fine Art made from modern materials the editors note 'it is precisely because artists continually use their imagination and creativity to add new meanings that the preservation and conservation of contemporary art should not be a static

¹⁰⁸ Caroline Broadhead, personal interview, 25th November 2003

process...it must be maintained in a dynamic and open discourse'¹⁰⁹ Whilst it may not be appropriate to respond to short term artist whims, longer term appraisal could reveal additional information to place both the artist and their works in a wider context. Broadhead and Manheim placed no explicit intent of preservation onto their works but initiating a discourse with them did, however, draw previously unspoken thoughts, revealing that collections are achieving their aim to nourish reinterpretation. The overall goal of the conservation profession appears to fully unite with their newer ideas and preservation of their artworks is and always was undeniably appropriate.

Whereas Manheim and Broadhead have both realised that physical objects are significant carriers of evidence, albeit retrospectively, the jeweller Yuka Oyama (b.1974) appreciates this fact so acutely that she changed her practice from creating transient jewellery to produce objects that could be preserved. Manheim and Broadhead have experienced introspective changes in attitude toward durability and preservation Oyama makes an overt statement to illustrate that her work deserves preservation.

Oyama is best known for her Schmuck Quickies (literal translation Quick Jewellery) performances in which audience members become participants as she creates spontaneous pieces of jewellery for them (see fig 65).¹¹⁰ The jewellery is deliberately temporary in physical construction and concept. Frequently the jewellery is physically united with the clothes of the wearer and the work is destroyed within hours because the act of undressing involves dismantling the jewellery. For this reason an essential element of the performance involves documentary portraits of each participant wearing their creation; a method of preservation appropriate for the performances. Oyama's materials are recycled and gathered from the performance locality. For a performance in Middlesbrough, for example, plastic tapes, foams and packaging dominated, reflecting the current

¹⁰⁹ Hummelen, I, & Sillé, D. eds. Modern Art Who Cares? An Interdisciplinary Research Project and an International Symposium on the Conservation of Modern and Contemporary Art, 2nd ed. (London: Archetype Publications, 2005) 10

¹¹⁰ Rogerson, Cordelia and Beighton, James, 'Can an Artist Create Permanence from Transience? The Schmuck Quickies of Yuka Oyama become Durable,' The Future of the Twentieth Century: Collecting, Interpreting and Conserving Modern Materials, eds. Cordelia Rogerson and Paul Garside, (London: Archetype Publications, 2006) 11-17

industrial heritage of the area.¹¹¹ It was during her residency at mima that Oyama expressed a desire to create a more durable body of work.¹¹² She aspired that the newer work addressed extending the life of recycled materials through changing the context in which they are appreciated. She wished her work would remain wearable for longer and have the capacity to be acquired by collections. Using ideas and materials derived from Schmuck Quickies (SQ) in the Middlesbrough performance, After Schmuck Quickies (ASQ) was accordingly created. ASQ comprise a range of limited edition stand alone brooches and hairslides that, unlike SQ, may be repeatedly worn and removed.



Fig 65. Yuka Oyama performs Schmuck Quickies by attaching adornment to a participant's sweater, Middlesbrough 26th October 2004

A number of issues relating to preservation become apparent. Oyama demonstrates that, for her, images alone are ultimately insufficient to represent her works into the future. Tangible objects became vital to her as physical proof of her labours. Such a view supports the existence of conventional museum collections and perhaps suggests reliance on images, as the Crafts Council has also experimented with, may be inadequate in some ways. The aesthetics of images are not sufficient for Oyama, the documentary evidence that is provided by the physical object is equally important for her.

Moving on from her SQ she also asserts through her ASQ range that, from her perspective, durability equals greater value. In SQ she already reinstated value and

¹¹¹ The author participated in a Schmuck Quickies performance at Psyche, Middlesbrough, 26th October 2004, curated by James Beighton of mima. Oyama's residency at mima ran from October until December 2004.

¹¹² Yuka Oyama, personal interview, 27th October 2004

function to materials that have already been discarded. In ASQ this value was drawn out further because the objects are intended to last. Michael Thompson's *Rubbish Theory*, which explains how goods can move from the status of useful to rubbish to that of desirable commodity once more, provides a foundation for understanding Oyama's value system.¹¹³ She forces the observer to consider the origins of the materials and reinterpret their importance as art, thereby challenging perceptions of waste. She constructs value in SQ through waste becoming art but which is then quickly destroyed once more; the materials comprising the works are presumably thrown away by the participant. ASQ, deliberately designed to be more durable, emphasises that a longer existence means prolonged value and on more than one level. Not only does this relate to the materials comprising the work but also her legacy as an artist, because this is potentially more visible in objects. Owners and custodians of ASQ also gain because they are able to possess the works for longer. In ASQ Oyama is implying that if something is durable it is also worth preserving because it can hold greater value than artwork that does not. Obviously, other artists who work within the bounds of impermanent art may disagree but Oyama has developed this opinion because she ultimately lamented the fact that her temporary SQ could only be preserved by virtual means. Similar to Pacey, Oyama has realised that part of her is positioned within the objects and she feels it is incredibly important that this is preserved.

In reality Oyama does not understand how her work will age. She may have filled her own artistic potential with ASQ but in doing so has inadvertently transferred considerations of transience and preservation to custodians of the work. Whilst undoubtedly the ASQ works will last longer than SQ, the materials, foams and adhesive tapes, are likely to begin to degrade within a few years. Oyama anticipates ASQ will be durable and be preserved but is disassociating herself, leaving others to grapple with the problem of deteriorating foams. In fact, she implies a level of trust in other stakeholders to look after her work whilst placing herself as a stakeholder. Custodians need to view the work in the same framework she does because recording and acting upon Oyama's viewpoint is central to understanding and maintaining the intent.

¹¹³ Thompson, Michael, *Rubbish Theory: The Reaction and Destruction of Value*. (Oxford: Oxford University Press, 1979)

Oyama assumes that her works will last and will be subject to preservation and the works will age. She has not, however, fully engaged with the idea that age in itself can lead to value and significance. As already noted with the mima collection and the artists Manheim and Broadhead, the almost inevitable process of recognising significance with passing time is at work with contemporary plastic artist jewellery. Moreover, in western culture the idea that antiquity equals value is continually demonstrated through the existence of many museums holding historic objects. Museums, in general, through their preservation strategies, attempt to hold objects as if frozen in time, unchanging from the point they are acquired. Embodied meanings of the objects thus exist for longer. Manheim and Broadhead, although unintentionally relying upon such institutions to preserve their artistic legacies, were delighted when they realised that this very thing was occurring.

In the museum context, therefore, the sometimes short-lived nature of plastics is seen as a problem to be solved. For jewellers Jivan Astfalck (b. 1960) and Kathie Murphy (b.1966) the mutable properties of plastics have in fact enabled them to critique their artistic practices, not merely detract from them. Their material choices in plastics, and associated deterioration, express the personal value systems their works embody. Rather than viewing their work merely as part of very recent decades both artists place their works in a wider historical context mimicking ancient but surviving jewellery. They illustrate that ideally their work should last thousands of years as well.

The conceptual German jeweller Jivan Astfalck most often works with polyester resin and highly transient latex rubber but turned temporarily to the far more chemically stable material gold. *Necklace*, 2000, created in gold, is a present day recreation of a classical style (see fig 66). Gold, in her opinion, is 'the only thing that does not date at all. That is [the necklace] something which will be like this forever, thousands of years and if they are dug up they will still be like that.'¹¹⁴ As Astfalck realises only a snapshot of historic jewellery remains today and material properties are a contributory factor, since organic materials of classical times have even less chance of survival. *Necklace*, 2000, is a calculated analogy to produce a work that will have greater material durability to sit alongside her other work she realises will not. She demonstrates an intuitive pragmatism for the properties and expectations of plastic materials, learnt through observation. More transient UP and rubber materials remain her dominant means of expression but Astfalck has to

accept their demise. Nevertheless, Astfalck aspires that 'some of my ideas have longevity and here and there a piece of work too,' documentation of the works and catalogues of exhibits are intended to provide some form of permanence for her inevitably more transient works.¹¹⁵ Astfalck's work in gold becomes ever more poignant because her works in plastics tend to be overlooked for acquisition by permanent collections. The majority is commissioned for temporary exhibits only.¹¹⁶ By using gold as an intentional contrast she is arguably showing an underlying aspiration that all her work may be preserved in a comparable way to the classical jewellery she emulates. What Astfalck has not considered is the monetary value of gold and the resulting propensity for its reuse and recycling, particularly where jewellery is concerned, and was astutely identified by Yager. Astfalck's comparison and concern with her perceived relative durability of jewellery created from either gold or plastics means this issue, for which many historical precedents exist, remains overlooked.



Fig 66. Jivan Astfalck, *Necklace*, 2000 (gold) artist's collection

Kathie Murphy who also works with polyester resin and rubber, has intensified Astfalck's conceptual idea, and once again demonstrates an understanding pragmatism concerning the longevity of her work. Rather than rejecting plastic and rubber materials in favour of longer lasting gold to explore durability in contemporary artist jewellery, she accentuates her different expectations of the lifespans of the UP and rubber components within her works. Astfalck shows

¹¹⁴ Jivan Astfalck, personal interview, 18th June 2005

¹¹⁵ Jivan Astfalck, personal interview, 18th June 2005

¹¹⁶ Jivan Astfalck, personal interview, 18th June 2005

compliance with the limitations of her plastics of choice by turning to other materials and emulating what she believes are enduring classical forms. Murphy confronts deterioration as a means of ongoing interpretation and comments upon what she hopes the significance of her work will be in the future, when deterioration strikes. Until circa 2000 Murphy produced a series of necklaces and bracelets comprising cast UP resin beads spaced on rubber tubing. Each bead is held in place by rubber 'O' rings either side, but as these readily disintegrated it forced her to learn about material properties by empirical means (see fig 67). Realising that the distinct components will, in all likelihood, have different lifespans she constructed a conceptual analogy founded on the survival of historic jewellery works. She explains 'I like the idea a pile of beads will be found in a coffin, just like the Egyptians, maybe without the rubber because that won't have lasted...maybe one day the oil supply will run out and plastic will actually be precious.'¹¹⁷



Fig 67. Kathie Murphy, *Necklace*, 1999 (UP, rubber) artist's collection

This suggests that she would actually like her work to survive even if it is incomplete. Ancient Egyptian faience beads, used as burial goods and shrouds, survive in large quantities but the linen threads securing them together are often deteriorated. Now the beads are regularly exhibited in museums as functional artefacts of this ancient period.¹¹⁸ Murphy implies the same is appropriate for her works, presumably with her name attached, as testament to her creativity. Greater

¹¹⁷ Kathie Murphy, personal interview, 17th December 2003

¹¹⁸ Rogerson, C. 'Material and Digital Transformations: the Conservation of Two Ancient Egyptian Beaded Items of Dress,' Preprints ICOM-CC 13th Triennial meeting Rio de Janeiro 22-27 September 2002, ed. Roy Vontobel. (London: James & James Ltd, 2002) 741-746.

emphasis is placed on the UP components than the rubber because it does potentially last longer and has greater capabilities for narrating her career as an artist jeweller. Obviously devoted to her material, for Murphy, it has the potential to become the new gold, which also holds great value, often of a monetary nature. In line with Oyama's stance, Murphy expresses personal hierarchy of material value with transience rated lower than durability. Although the monetary value of gold can ensure the destruction of jewellery made from it, the actual lower value of UP and the difficulties of reuse may prevent destruction of Murphy's work, as Yager predicted for her own.

By referencing historic jewellery that has endured, both Astfalck and Murphy are placing their work in an historical context before it ages, in anticipation that this process will continue. Furthermore, they demonstrate an intuitive understanding how material properties contribute to the lifespan of works. Although neither was aware of the fact, they had naturally embraced some issues of preservation as an integrated element of their artistic practice. Furthermore, the addition of a conservator for discussion enabled these artists to articulate their ideas in greater context. Even though it is doubtful whether the work of either artist will be buried and later found in the way they envisage, their prophecies demonstrate the importance of acknowledging jewellery history for deciphering even very new artworks.

As Astfalck and Murphy realise, by no means all plastic artist jewellery will be long lasting. Even so, these two artists harbour a longing for durability which they realise may be unrealistic. German artist Susan Pietzsch (b.1969) like Astfalck and Murphy also embraces the option of durability and preservation, according to material content. By contrast, however, she wholly rejects preservation of her more transient works sensing it as not 'particularly appropriate' or practical.¹¹⁹ Unusually, within the artist jewellers interviewed, Pietzsch does not furtively hope for durability. Moreover, she tacitly employs the physical behaviour of more transient plastic and rubber materials to express this. Her work is created from a variety of media including porcelain, nylon, sugar and commercially bought rubber bands. It is intended to invoke an unsettling surprise in the viewer by using unexpected materials for familiar shapes and settings. Coffee beans, for instance, are cast from durable porcelain and used as beads, whilst rubber bands are secured together with nylon line creating colourful neckpieces (see fig 68). Pietzsch believes the behaviour

of mass-produced rubber bands implies the work is changeable and short-lived. The form of the necklaces will stretch and transform endlessly due to the rubber content, performing a visible instability. The behaviour of the resulting neckpieces exemplifies the longer-term reality of impermanence. Her porcelain works do not exhibit such extreme tactility, and hence imply greater durability. Like other artist jewellers working in plastics, Pietzsch's response to lifespan of the rubber bands, she admits, is without intentional thought, but is intuitive. *Oona, Galerie für Schmuck*, a jewellery gallery in Berlin, representing Pietzsch, agrees that not all jewellery should last. In their mission statement they warn that the jewellery for sale is 'neither precious nor is its eternal preservation important'.¹²⁰ Accordingly Pietzsch does not expect her rubber band works to be placed in permanent collections. Instead her point of view respects the limitations of the rubber material she uses and, from her perspective, is fit for the intended purpose.



Fig 68. Susan Pietzsch, *Necklace*, 2004 (rubber band, nylon)

UK jeweller Sarah Lindsay (b.1981), who works with powdered then heat-fused PMMA, equally believes artist jewellery should function as intended. Durability is central to her artworks. Her '*Dust*' collection exploits the thermoplasticity of PMMA fusing highly coloured grains into discs with brittle looking edges (see fig 69). Yet actual fragility is not appropriate for her work, in reality she wishes to generate only an illusion of frailty. She explains 'it is also another design challenge, it is easy to make, e.g. paper or feather, look delicate but it doesn't really fulfil the criteria as

¹¹⁹ Susan Pietzsch, personal interview, 26th October 2004

¹²⁰ Oona, Galerie für Schmuck, Auguststrasse 26, 10117 Berlin, press text Contemporary Jewellery in Berlin <http://www.oona-galerie.de/kontakt/> accessed 14th May 2005. Anna Schetelich, Director Oona Galerie, written correspondence, 17th June 2005

functional jewellery.¹²¹ Astfalck and Murphy apply ideas of survival to appraise their artistic practice whilst Pietzsch meaningfully employs materials with a short lifespan in their work. Lindsay alludes to impermanence brought about by fragility but attempts to defy it. Moreover, she is ambitious for the future survival of her work, like other artists placing as much accountability on a potential custodian as in her artistic skill; 'I think it should remain as if frozen in time in a museum- preserved for future generations to see it as it was.'¹²²



Fig 69. Sarah Lindsay, *Earrings*, 2005 (PMMA, stainless steel) private collection

Similar to Pacey, Astfalck and Murphy, Lindsay employs her materials conceptually to comment that plastic materials hold equal or greater artistic value compared with other jewellery making materials. Over and above this Lindsay articulates that monetary value may also be a factor that determines the jewellery should be long lasting. She explains 'my jewellery is handmade and therefore quite expensive and so I think it should last quite a few years. That is what separates it from costume jewellery, which often only lasts a season and then...falls apart.'¹²³ The fact that jewellery is handmade does not automatically determine durability, however, nor does more mass produced jewellery inevitably fall apart after a season. Rather Lindsay alludes to her personal wish for durability by saying that something expensive is worth keeping and, by association, preserving. Moreover, she implies high monetary value relates more to her creativity and ideas as an artist than materials because, after all, costume jewellery could well be created from the same materials she chooses. What is actually of value in the work is her identity as an artist but she chooses to translate this into monetary terms. Although not communicating this fact directly, Lindsay, seeks long term recognition. More

¹²¹ Sarah Lindsay, written correspondence, 15th February 2006

¹²² Sarah Lindsay, written correspondence, 15th February 2006

¹²³ Sarah Lindsay, written correspondence, 15th February 2006

unusually, she places accountability for creating durable artworks on herself so that recognition through her objects may occur.

In the current climate of dwindling museum resources, relating artworks with money terms may be a prudent approach. As demonstrated by the V&A curator works that are considered unstable may be overlooked because they may require specialised treatment sooner, thereby stretching resources. Whilst the majority of artists interviewed indicated preservation was appropriate they rather assumed this would occur, but had not considered how and by whom. Pacey remains the strongest advocate that others must work on her behalf.

In practice, collections and artists are dependent upon each other. Artists provide plastic jewellery for collecting, and the custodians promote the artist by doing so and by preserving their art. Preservation of plastic artist jewellery does matter as it prolongs evidence that the objects embody for all stakeholders, as Manheim and Broadhead have discovered. The attitudes voiced by the majority of the artists affirm not only that objects are important, but so is their preservation. By emphasising the object the artists imply that virtual preservation only may not be a sufficient means of preservation. For Oyama images of jewellery were inadequate because they did not provide a tangible sense of her work, which prompted dramatic alterations to her practice.

An object in a collection acts as a springboard for enquiry and is not a concluding statement but invites dialogue surrounding its origin, meaning and function in society.¹²⁴ The changing fortunes of artist jewellery in mima and the Crafts Council, in particular, illustrate how attitudes toward objects can alter. Possibly the Crafts Council has reached and now moved beyond the rubbish stage of Thompson's theory and which Oyama has deliberately overcome. For some artist jewellers, however, the concept of preservation offers a stimulating framework for a personal dialogue regarding the survival of their artworks and within which their practice is shaped. Preservation is for some a conceptual device for artistic expression. Murphy and Astfalck explore the wider historical context regarding their works as they change in condition and deteriorate over time and show sensitivity toward the materials they use. The perceived or observed ongoing behaviour of materials is, at times, vital for the intent.

¹²⁴ Kavanagh, Gaynor, History Curatorship. (Leicester: Leicester University Press, 1990) 112

All artists consulted have constructed their own value systems relating to their jewellery. Their reasons variously relate to their presence and practice as artists and material choices in plastics. As an artist Derrez stands alone in wishing to leave decisions regarding his work entirely to others. Several artists have, however, considered issues of durability and preservation to a greater degree than some custodians, showing some empirical understanding or perception of material behaviour in the longer term. Whilst artists have played with these ideas, however, they do not appear to have communicated this fact to collectors or custodians, who either did not know or acknowledge this element of artistic practice and its relevance to the jewellery in their care. Moreover, whilst some collections custodians grapple with the idea of wearing the jewellery this did not come across as an issue for many jewellers. Most appeared accepting that jewellery in collections will not be worn. Maintaining the ability to be worn within collections will be returned to in the next chapter, when the impact of change on the jewellery is considered. Yet the desire for jewellery in collections to be handled appears to rest with the custodians and other stakeholders.

By highlighting the attitudes and values held by both these stakeholder groups it is seen that the objectives of artists and custodians can unite. At times they currently do not and possibly they may never connect in some circumstances. Privately owned collections, for example, appear to consider their own needs at present. Moreover, it is apparent that greater knowledge of preservation and conservation needs to reach jewellery collections to stimulate debate regarding preservation in general as well as involving artists to express their opinion on the matter. What remains imperative is that the objectives of the artists are recorded as an orientation marker for future interpretations.

Whilst the ironic idea that plastic artist jewellery may well endure because its material content is of low monetary value has been discussed, the fact remains that the jewellery is likely to undergo some change over time even if it is not broken up for reuse. Indeed preservation may be seen as the management of change to cultural heritage. The next chapter, therefore, considers the impact that change, damage and deterioration may have on these artworks and their interpretation.

Chapter 5

The Impact of Change to Plastic Artist Jewellery

Change to objects is a principal concern for conservators who look to preserve and conserve them. At some point all objects will change and this will result from a variety of causes. Change over time is hence the subject of some scrutiny whereby judgement, sometimes aided by analysis, is exercised to determine original appearance, extent of change and its causes. The most significant factor, however, is the consequent judgement of the impact of change on objects. During this research I have encountered numerous examples of plastic artist jewellery that has changed from its original appearance or properties. Consequently the impact of this change needs assessing and this research is the first to investigate these issues in detail.

This chapter, therefore, establishes three principles to help conservators interpret changes they see on plastic artist jewellery. This will enable conservators to decide on a course of action for future preservation and treatment. Firstly I propose that that because of finely finished and small-scale surfaces on plastic jewellery small incidents of change have a large impact. Plastic jewellery objects are highly susceptible to change, more so than realised at present. The way plastic materials are perceived in general by the conservation profession is questioned. Secondly I present that change can be something to be valued. Change is not always considered as a detriment to objects within conservation yet plastic objects and jewellery in particular has not been considered similarly before. In order to put reasonable limits on this potentially huge subject I make particular reference to change on jewellery that is the result of use. It is, however acknowledged, that change on jewellery from other causes can also be valued. The salient point here is to establish that this kind of evaluation is possible rather than give examples for all possible causes of change. Furthermore, change through use is understood and even considered to be a benefit by some artist jewellers, but is at present unobserved by conservators and curators. Finally I propose that when the wearability of plastic jewellery artworks is lost through deterioration it is a significant milestone in the lifespan of that work. The close relationship between the construction, function and interpretation of intent is analysed. Even when an item outwardly appears complete but the wearing function is lost there is a significant loss of information

from that item. Jewellery in museum collections is framed in a similar context to other functioning objects, such as musical instruments that, arguably, need to be played in order to function properly.

The first two proposals relate to surface and structural changes to plastic jewellery and how this may influence the appearance and interpretation of the objects. The third section emphasises the mutual dependence of the form and function of jewellery that is necessary to support intent. The importance of surface and structure, which will be discussed in this chapter, was recognised as a result of the work I did on studying the applications of plastics in jewellery. In chapter 3, for example, it was demonstrated that some artist jewellers push the boundaries of plastic materials to explore how the properties of plastics can be exploited to express ideas. Surface appearance is a critical feature for artistic intent and it was established that plastics enabled a wider range of structures within artist jewellery than before. In chapter 4 it became clear that some collections holding jewellery are concerned with preserving their artworks whilst others are less so. Either way, each collection examined had examples of plastic jewellery that showed change or damage which had an impact on the interpretation of the collection items.

Chapter 4 also illustrated that some artists base their expectations and desires of durability of their works on their perceived long-term behaviour of materials. Whilst some artists expected their chosen materials to change, others did not, which highlights how well or little artists understand their materials. The research presented in this chapter offers some clarity and awareness for artists as well as conservators and curators as to the effect of changes and failings in plastic materials when applied in jewellery artworks.

As outlined in the thesis introduction deterioration pathways and their causes in plastics will not be discussed in detail because current knowledge regarding this more scientific perspective is already published for conservators.

The question of damage and its impact is riddled with value judgements, as indeed is the whole of the conservation profession. The same is true in assessing the affect of change and damage on plastic jewellery artworks and this is acknowledged. Assessments are about changes of state and some judgements about aesthetics cannot entirely be avoided in these discussions. The artistic

intent of each piece discussed is, however, used as the guiding principle upon which all judgements concerning the impact of any changes is based.

5.1 Minor Change with Major Implications – The Impact of Mechanical Damage to Plastic Artist Jewellery

Sometimes change will have considerable bearing on a particular object whereas the same, on a different artefact, may be appreciably less. Conservator Jonathan Ashley-Smith asserts that a larger, textured and multicoloured art object will not have its visual message altered with one small surface loss or crack.¹ Such small incidents only become visually significant when many more appear. At the other end of the scale, Stefan Michalski, Senior Conservation Scientist, sweepingly identified contemporary Fine Art as having an unusually high visual vulnerability to small defects. His rationale is based on two counterpoised criteria. A 'perfect uniformity' of manufacture renders small marks readily and distressingly detected on a seamless homogenous finish. Secondly 'manufactured complexity' whereby reliance on technical components, such as screens or moving parts, also causes vulnerability, since their breakdown is far reaching.² Immediately it is obvious that not all contemporary art fits Michalski's description, other historical and applied art objects with a smooth undecorated finish and so forth can be included in his assessment in addition to contemporary art. Furthermore, what Ashley-Smith implies but does not make explicit, and Michalski overlooks entirely, is that the relative size of the artefact to that of the change may have a profound effect. Although damage, such as breaks, on artefacts has an absolute size, so do artefacts. Smaller artefacts may well suffer a greater impact as the same damage on a larger piece. Despite the limitations in their assessments described above, the two specialists indicate that a range of receptiveness to the impact of mechanical change exists for artefacts in general, and suggest several reasons.

The following discussion demonstrates that the impact of even small changes on plastic artist jewellery is, in fact, significant. The small scale and finely finished

¹ Ashley-Smith, Jonathan, Risk Assessment for Object Conservation, (Oxford: Butterworth Heinemann, 1999) 106

² Michalski, Stefan, 'Conservation Lessons from Other Types of Museums and a Universal Database for Collection Preservation,' Modern Art Who Cares? An Interdisciplinary Research Project and an

surfaces found on plastic artist jewellery make this so. Jewellery is designed to scale with delicate human contours and may accordingly have a proportionally large surface area. Even though a scratch or break may be small the degree of change is actually large. Accordingly impact on the artistic intent and its interpretation is considerable because the form and surface support the intent. The trait is particularly marked where plastic artist jewellery is concerned because the exacting manner by which some artists have applied and expect their chosen materials to behave has left them susceptible to the impact of such change. Moreover, since much conservation research into plastics has so far focussed on material degradation and its pathways, the impact of mechanical change to artefacts and their interpretation has received less attention generally. Yet small incidents of surface change matter. The current general level of perception within conservation regarding the stability of plastics is questioned. Presently opinion appears based solely on material properties of plastics, not individual applications within objects. What may be considered a relatively stable material from a deterioration point of view may actually be prone to mechanical change and so when applied in an artwork the material may be considered less stable in practice. With the occurrence and impact of such change being overlooked, requirements to help prevent it, where appropriate, are at times also unrecognised.

Several examples of plastic jewellery with small incidents of mechanical change, both from surface marks and breaks, but with a high impact, are summarised. For this discussion the examples are selected to demonstrate change that impacts upon artistic intent. It will become clear that the change discussed also often implies damage to that artwork and is to its detriment. Several examples make this explicit and these are highlighted where appropriate. Yet this is not always the case and the idea that change may also be valued is discussed in detail within the next section of this chapter. Before this more complex argument is entered into, this section is deliberately presented first, to establish that change, however it is viewed or valued, has a considerable impact upon plastic artist jewellery. Consideration of the impact upon artistic intent in each case is acknowledged as an aesthetic judgement, yet enables assessment of the impact of change.

**Adam Paxon (b.1972, UK), *Squirming Ring*, 2004, (PMMA, epoxy resin)
70 x 52 x 55mm, mima (J0163)³**

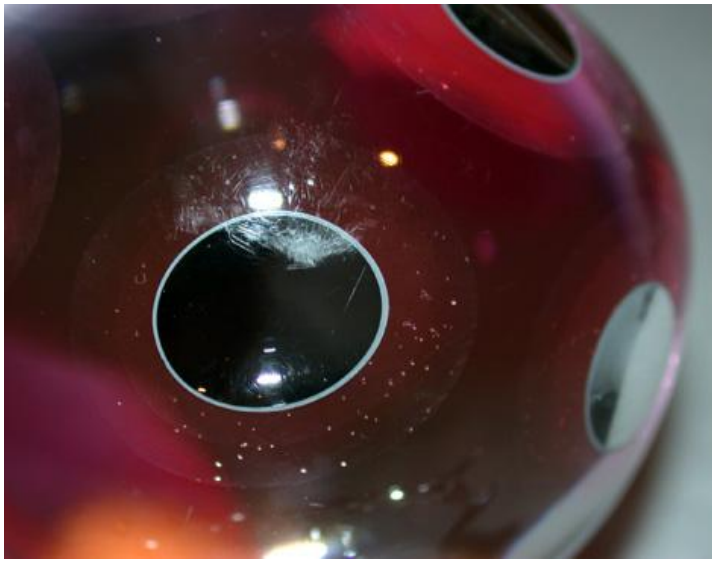


Fig 70. Adam Paxon *Squirming Ring*, 2004

The ring comprises a solid seamless polished globe of transparent uncoloured poly(methyl methacrylate) PMMA (see fig 70). Roundels of black PMMA are applied evenly over the surface and are secured with pink dyed resin giving a pink hue at certain angles as light reflects through the plastic. The ring is held in the fingers by a fish tail shaped grip rather than a conventional ring that fits around the finger. Paxon makes an overt exploration of internal and external reflectivity of light in this piece, making the flawless highly polished surface of paramount importance to communicate artistic intent. *Squirming Ring* has been transported and exhibited internationally and now resides in storage at Middlesbrough Institute of Modern Art (mima). Now numerous scratches and indents (no more than 1-2mm) are evident on the surface causing areas of dullness that are visually pronounced. These occur particularly around the widest point of the orb where it apparently has lain on a flat surface. Arguably the change seems to contradict the intended and original seamless finish and the impact of even these small changes is considerable.

³ Examined 1st February 2006, Adam Paxon, personal interview, 19th March 2004

Jivan Astfalck (b.1960, Germany) *Joan of Arc Brooch*, 2001, (polyester resin, photocopied image, stainless steel), 90 x 60 x 4mm, artist's collection.⁴



Fig 71. Jivan Astfalck, *Joan of Arc Brooch*, 2001

The rectangular brooch with a flat profile comprises an image of Joan of Arc embedded within polyester resin and is otherwise undecorated (see fig 71). The resin is colourless with a smooth surface to ensure the primary content of the brooch, the image, is readily observed. Moreover, the conceptual intent hinges on the visual perfection of the image. In Astfalck's view, the image is 'iconic' and any change to the appearance, however minor, sullies the artistic focus, and importantly is disrespectful to the heroic figure she lauds.⁵ The small surface scratches that exist on the surface must therefore be considered highly significant as change and, in this case, to the detriment to the artistic intent.

⁴ Examined 18th June 2005

⁵ Jivan Astfalck, personal interview, 18th June 2005

Ramon Puig Cuyas (b.1953, Spain) Brooch, 1988, (PMMA, oxidised silver, brass), 135 x 45 x 11mm, Royal College of Art Visiting Artists Collection Victoria & Albert Museum (Loan RCA 7).⁶



Fig 72. Ramon Puig Cuyas, *Brooch*, 1988, detail

Formed as an abstract human form primarily from matt patinated silver, two PMMA components are prominent (see fig 72). The red oval shaped head section and red and white curved rectangular shaped mid section provide accents to the brooch with colour and texture comprising a highly polished surface. Now the PMMA sections exhibit tiny surface scratches between (0.5-3mm long) which modifies their surface noticeably. The silver by comparison does not show the same level of change, suggesting the protruding position of the PMMA pieces was a contributory factor. Moreover, the metal has a greater resiliency to the mechanical processes the brooch has evidently undergone. The PMMA components thus form the focus of the change at this time and are the most susceptible to mechanical abrasion. The brooch was made during a masterclass at the Royal College of Art in 1988 before acquisition by the V&A in 2006, and was not part of a wearing collection.

⁶ Examined 10th October 2006

Susan Cohn (b.1952, Australia), *Necklace*, 1995, (Oakley red iridium plutonite sunglasses lenses, gold, white metal, stainless steel) 160 x 21 x 50mm, Royal College of Art Visiting Artists Collection Victoria & Albert Museum (Loan RCA 35)⁷

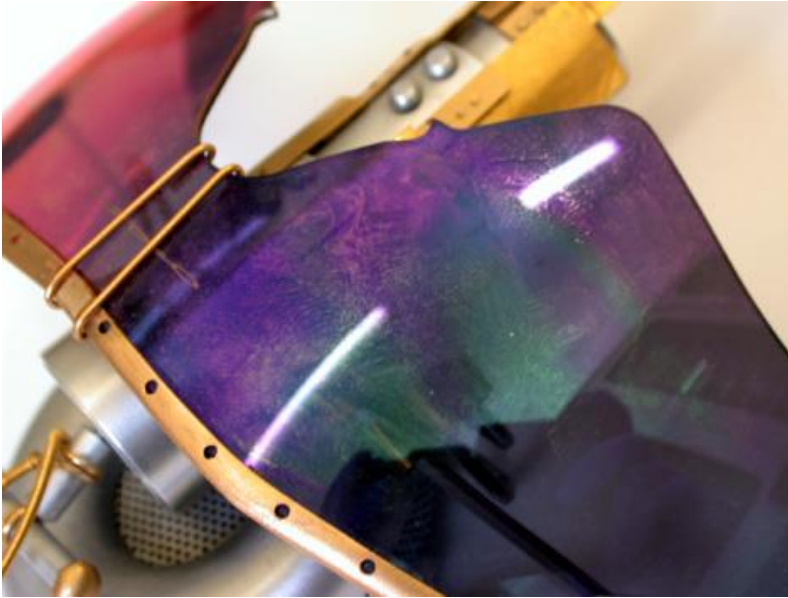


Fig 73. Susan Cohn, *Necklace*, 1995, detail

The necklace, resembling an outsized fly, has a plastic sunglasses visor forming wings, which are the dominant visual feature of the structure (see fig 73). The visor is polished and mirrored thus echoing the effect of an iridescent fly eye. Created during a masterclass at the Royal College of Art in 1995, it was stored at the college prior to acquisition by the V&A in 2006. Evidently the necklace has been handled extensively since it was created. Several extremely visible fingerprints now almost cover the surface of the visor, appreciably altering the reflective effect. When viewed the fingerprints are the primary visual focus. The transformation of a mass produced manufactured component to a unique artwork is arguably compromised, since the finger marks echo the touch of many human hands, and remind of the visor's more mundane and initial intended purpose.

⁷ Examined 10th October 2006. The finger prints are intended to be removed during conservation treatment prior to display.

Kathie Murphy (b.1966, UK), *Bangle*, 2003 (polyester resin, cotton thread), 85 x 85 x 650mm, artist's collection.⁸



Fig 74. Kathie Murphy, *Bangle*, 2003

The bangle is moulded from polyester resin in two stages, but as one piece (see fig 74). A wider and thicker transparent section with blue coloured cotton threads embedded within is adjoined to a thinner and finer opaque dark green band at the top. Just beneath the green section, but still within the transparent region, an arc shaped crack has occurred, approximately 20 mm in length. The crack is probably the outcome of mechanical shocks to the bangle when it was off the body, and in all probability results from differential densities and modulus of elasticity between the two different areas.⁹ The transparent area has no pigments or filler and remains comparatively brittle compared with the green area, which has both.¹⁰ Now the crack dominates visually in the otherwise unflawed bangle and cannot be overlooked when the bangle is viewed. In fact the eye is drawn to it. Despite the crack being small its has a large effect.

⁸ Examined 17th December 2003

⁹ Kathy Murphy, personal interview, 17th December 2003

¹⁰ Personal interview, Colin Williamson, Director Smile Plastics, 25th January 2005. Williamson suggested the cause of damage to the polyester resin bangle, based on personal experience of the material and its properties.

Jared Taylor (b.1966, UK), *Necklace*, 1991 (polyester resin, acrylic paint), 500 x 170 x 70mm, mima J0089.¹¹



Fig 75. Jared Taylor, *Necklace*, 1991

The necklace emulates a metal chain visually and in form, yet is it created with an entirely different material, polyester resin (see fig 75). The painted surface recalls rusted iron. Large circular links, comprising the necklace, have a rectangular cross-section varying in width, from 2mm –15mm, around the circular form. The moulded polyester links are unconventionally large for a necklace, 61mm each in diameter, yet the circular rings are slender and form a long thin self supporting shape. In addition the polyester resin does not have reinforcing fibres to strengthen the otherwise brittle material. As a result a brittle fracture has occurred. One link that forms the closing mechanism has suffered two breaks and it now lies in separate pieces. The necklace can no longer function as intended and the change is far reaching and noticeable. The mechanical damage occurred to the work between c. 2000-2003 during a travelling exhibition.¹²

¹¹ Examined 10th March 2003, 1st February 2006

¹² James Beighton, personal interview, 17th March 2003

Franz van Nieuwenborg (b.1941, The Netherlands), *Necklace*, 1975, (PVC?), 240 x 240 x 2mm, Derrez-Hoogstede Collection, Amsterdam.¹³



Fig 76. Franz van Nieuwenborg, *Necklace*, 1975

Cut from a single sheet of unplasticised red PVC(?) the necklace is a single ring with a graphic and simple aesthetic (see fig 76). The success of the design depends on the integrity of the shape and the smooth surface, but the fracture across the ring disrupts this. The fracture was, in all probability, caused by mechanical force, perhaps exacerbated by the ageing material, which is relatively brittle in nature.¹⁴ The perfection of the combination of shape and surface has been interrupted, and the impact of the break is thus huge, despite only being 25mm in width. Moreover the wearing function is impaired.

Although diverse in shape, material and intent each artwork described is modified by change caused by mechanical means. When combined with appreciation of the artistic intent the changes become yet more significant. The transparency, sheen or structure seen in each case is enabled by the use of the plastic materials. Yet the very characteristics of these plastic materials the artists take advantage of are often those that have been affected. In Paxon's *Squirring Ring* and Puig Cuyas's *Brooch* the artists have pushed their surfaces beyond the manufactured finish of the PMMA sheets and outside the requirements of more common industrial use. Although flawless and shiny when purchased, both artists have further polished the surface of PMMA sheet to achieve their artistic

¹³ Examined 13th November 2006

¹⁴ Paul, Derrez, personal interview, 13th November 2006

aim. Paxon explains that his approach is quite deliberate 'the acrylic I use is actually a high end plastic, quite hard, it can take a good polish, so the material wants it to happen, to get light working within the piece, but also for that wet look – glistening.'¹⁵ Yet, the surface of Paxon's jewellery is highly vulnerable by comparison with some other more conventional jewellery making materials. PMMA is not as hard as gemstones, an alternative and commonly applied means to create surface and internal reflection of light in jewellery. Even so Paxon continually reiterates that surface is a primary artistic concern for him particularly since the PMMA he uses enables much larger reflective surfaces than most gemstones to explore. He explains 'I am trying to draw us completely into the surface, virtually eliminating colour...I am more interested in coming into that surface.'¹⁶ Scratches on Paxon's and Puig Cuyas's work have occurred all too readily and the impact of change to their exacting requirements are undoubtedly compounded by the scale of the works. Certainly these pieces fit the criteria of Michalski's assessment that a smooth homogenous finish on contemporary works, so readily achieved by plastics, is susceptible to change.

Whilst a glossy surface is predictably prone to change, Astfalck's *Joan of Arc brooch* reveals that a lustrous surface on jewellery is not necessary for the impact of change to have a bearing. Although smooth, the brooch is not shiny and the intricate image of a 1940s actress posing as the French heroine adds considerable visual complexity.¹⁷ Despite this, the impact of the tiny surface marks that currently exist cannot be denied completely. More so if the stated intent of the artist, that an image representing Joan of Arc, calls for visual perfection, is also taken into account. Like PMMA, the polyester resin does not withstand abrasion to the degree of gemstones, or even metal. Furthermore, similar to the pieces by Paxon and Puig Cuyas, the brooch demands intense scrutiny because the image is detailed as well as condensed into a form that readily fits on a human chest. To view the image means to observe the surface changes. Astfalck is also explicit that any changes to the surface of the brooch are inappropriate. Artist testimony in this case enables an effective evaluation of the impact of change.

¹⁵ Adam Paxon, personal interview, 19th March 2004

¹⁶ Adam Paxon, personal interview, 19th March 2004

¹⁷ Jivan Astfalck, personal interview, 18th June 2005

Not all jewellery needs such close inspection to comprehend intent, yet surface change can still remain highly prominent. Visual appreciation of Cohn's fly shaped necklace, for example, can be seen on a number of levels. The artist derives inspiration from the realm of mass production and the necklace is constructed from ready-made articles intended for industrial and domestic use. Close inspection reveals unexpected components of metal coils and screws but at a greater distance the shape of the fly becomes dominant and the general form momentarily supersedes the unusual constituents. At whatever level the necklace is regarded, however, the surface marks on the mirrored visor are obvious. Individual finger-prints are rarely more than 20mm wide but even an individual print on the visor is visually significant, whether close to or at a distance. The high impact is attributed again to absolute size and the emphasis on surface characteristics that are possible with plastic materials.

Cohn is certainly not the only artist to have suffered enquiring fingers to her work. Likewise, Paxon and Puig Cuyas are not alone in having surface scratches to their pieces. Larger artefacts such as sculpture and furniture created from plastics, can, however, carry similar damage with less impact. American sculptor Donald Judd (1928-1994) exploited sheet PMMA for its 'spotless luminosity and for its clear cut sharpness' according to his critic Rudi Fuchs.¹⁸ Judd's severely shaped sculptures are prone to inquiring finger marks when exhibited. According to his fabricator Peter Ballantine, however, whilst it was not necessary to have Judd's works in a constant state of high polish, finger-prints are unacceptable and they are removed.¹⁹ Arguably the impact of one finger mark on the PMMA of Judd's work, *Untitled*, 1990, (blue anodised aluminium, clear PMMA), in the Tate gallery collection, however, is far less than the same on Cohn's necklace, despite Judd's lament. *Untitled* comprises 10 rectangular units each 230mm x 1.01m x 787 mm in size and PMMA sheets form the two largest sides of each rectangle. Undoubtedly, one 20mm finger mark on this will be readily overlooked in a way that it really cannot on Cohn's visor, even though the overall profile of the sculpture is less intricate than Cohn's fly.

¹⁸ Fuchs, Rudi, 'Donald Judd (artist at work),' Donald Judd, ed. Nicholas Serota. (London: Tate Publishing, 2004) 14

¹⁹ Williams, D, Lowinger R, 'Quiet Collaboration: The Special Relationship between Artists and their Fabricators,' From Marble to Chocolate The Conservation of Modern Sculpture, ed. Jackie Heuman. (London: Archetype Publications, 1995) 132

Examples of Eero Aarnio's *Globe Chair*, 1968, in the V&A Museum, delivered new from the manufacturer Asko, and Verner Panton's *Panton Chair*, 1967, in the Vitra Design Museum exhibit surface scratches (see figs 77 & 78). Both are manufactured with glass fibre reinforced polyester resin and depend upon a glossy uniform reflective surface as part of their overt aesthetic of the 'Pop' era. Neither are regarded as particularly aesthetically challenged as a result by the present level of change. Fading soft upholstery and structural weakness of the *Globe* and *Panton* chair respectively are currently of greater concern.²⁰ Possibly this is because these are the most pressing problems, and so are dealt with first. The damages have been prioritised according to their ability to destroy the object and understandably so. Yet the impact of changes to surface appearance remains overlooked in conservation literature and debate surrounding this issue remains limited. 'Considerable damage is only apparent at second glance' remarks the published conservation critique of the *Panton* chair because the overall appearance and intent is still unmistakable.²¹ Not so the Paxon and Puig Cuyas jewellery whose appreciation demands close scrutiny because they can both easily fit in the palm of a hand and whose surface quality is hence imperative and sensitive to viewing.



Fig 77. Eero Aarnio, *Globe Chair*, 1968, V&A Museum



Fig 78. Verner Panton, *Panton Chair*, 1967, Vitra Design Museum

²⁰ *Globe Chair* viewed 22nd March 2004

Wickens, Joelle, 'A Global Challenge: The Search for Conservation Solutions for Eero Aarnio's *Globe/Ball Chair*,' *The Future of the Twentieth Century Collecting Interpreting and Conserving Modern Materials*, ed. C. Rogerson & P. Garside (London: Archetype, 2006) 117-121

Albus S. et al *Plastic Art a Precarious Success Story*, (AXA Art Insurance Publication, 2007) 62

²¹ Albus S. et al *Plastic Art a Precarious Success Story*, (AXA Art Insurance Publication, 2007) 62

Attitudes Towards the Stability of Plastics in Conservation

The susceptibility of plastic jewellery to surface change and fracture and the considerable impact of this encourage a reassessment of current perception, within conservation, of the delicateness and stability of some plastic materials.

PMMA, for example, is commonly considered as one of the more enduring and stable synthetic plastics encountered in artefacts.²² Whilst the readiness of PMMA to be scratched and lose its surface finish is noted, rarely has this been raised as a significant conservation concern. Conservators, conservation scientists, curators, plastics specialists and jewellers interviewed in the course of this research continually expressed the view that they considered PMMA to be less of a concern than some other plastic materials. Polymer scientist and plastics expert in the Victoria & Albert Museum Conservation Science Department, Dr Brenda Keneghan does not currently list PMMA amongst the plastic materials she considers highly problematic and at risk in a museum collection.²³ Dr Anita Quye, Senior/Principal Conservation Scientist, National Museums of Scotland notes PMMA's major degradation feature, its propensity to craze as a result of inherent stresses from (particularly) extruded manufacture. However, she does not consider surface scratches to be of enormous concern by comparison with deterioration occurring in other plastic materials.²⁴ Joanna Whalley, Senior Metals conservator at the V&A and who has conservation responsibility for the jewellery collection, is aware that PMMA crazes but did not perceive that artist jewellery constructed from it would be either particularly vulnerable or problematic in other ways.²⁵ Artist jeweller David Watkins concurs 'I know in very general terms that high quality acrylic was supposed to last for a good many years and would probably eventually show signs of ageing, cracking etc.'²⁶ All of these professionals, who deal with plastics in their distinct roles, are overlooking sometimes even the possibility of surface scratches to PMMA.

²² Personal discussion Anita Quye, Conservation Scientist & Elizabeth Goring, National Museum of Scotland, 6th May 2003; Colin Williamson, Director Smile Plastics, 26th January 2005; Dean Graves, Director, Zone Creations, 15th January 2005; Joanna Whalley, Senior Metals Conservator, V&A 7th February 2006; Brenda Keneghan Polymer Scientist, V&A; James Beighton, ; Personal interviews with Wendy-Sarah Pacey, 1st March 2004; Adam Paxon, 19th March 2004; David Watkins, 18th July 2006

²³ Dr Brenda Keneghan, personal discussion, 2002

Keneghan, Brenda, 'Plastics? – Not in my Collection,' *V&A Conservation Journal* October (1996): 5

²⁴ Dr Anita Quye, personal discussion, 2003

²⁵ Joanna Whalley, personal discussion, 7th February 2006

Certainly they do not recognise the impact such change may have on artistic intent of objects in general and jewellery in particular. The opinions of these individuals demonstrate that they are considering PMMA in isolation rather than how it may be applied in practice. That is, how properties of the material are used and given emphasis and thus assume importance for the artistic intent. As demonstrated in chapter 3 when PMMA is applied in artist jewellery the optical qualities of the material are often critical.

The relative immaturity of research into the conservation of plastics has led to the situation that newly generated knowledge was initially concentrated on understanding the deterioration of specific materials. The plight of synthetic and semi-synthetic plastic materials such as polyurethane and cellulose nitrate, which are prone to devastating chemical deterioration, are heavily emphasised.²⁷ Naturally when the need for study of modern materials in conservation was recognised, calamities such as crumbling foam and distorted blistering surfaces, caused by these and similar materials, demanded research. Consequently much has been achieved in the last two decades to comprehend some of the chemical processes at work, which was largely driven by conservation scientists.²⁸ Vital though this is, evaluation of the relative propensity of plastic materials, and the artefacts created from them, to change, has to go beyond chemical composition. As the examples of plastic artist jewellery exemplify, the application of a plastic along with the context of artefacts made from them, can also have a significant bearing on their condition and interpretation. Yet, as the field of modern materials in conservation evolves, a continuing emphasis is placed upon chemical decomposition of plastics. Evaluations of the effect of mechanical change on plastic objects, rather than deterioration, appear more limited.²⁹ The most recent international conservation conference for modern materials, for

²⁶ David Watkins, personal interview, 18th July 2006

²⁷ Van Oosten, Thea, 'Plastic Surgery: Conservation Treatments for Flexible Polyurethane Foams: from Facelift to Donating the Corpse to Science,' Preprints Reversibility does it Exist?, (British Museum, London, 7-10 September 1999) 33-36

²⁸ Bellany, J. An Investigation into the Factors Affecting the Degradation of Cellulose Acetate Artefacts in Museum Collections, PhD thesis, U of Strathclyde, Scotland, 2000

Stewart, R. Analytical Studies of the Degradation of Cellulose Nitrate Artefacts, PhD thesis, U. of Strathclyde, Scotland, 1997

²⁹ Mossman, S. 'Plastics in the Science Museum, London: A Curator's View,' Saving the Twentieth Century: The Conservation of Modern Materials Proceedings of a Conference Symposium Ottawa, Canada, 15-20 September 1991, ed. D. Grattan, (Ottawa: Canadian Conservation Institute, 1991) 25-33

example, featured three papers considering the preservation of varied collections of cellulose nitrate and cellulose acetate objects from their material perspective.³⁰ Yet no papers sought to comment comprehensively how mechanical change such as scratches could affect the interpretation of such artefacts, despite such change being almost inevitable.

It appears as if the accent on the deterioration of plastics has subsequently influenced how plastics are now assessed in conservation. The fact that surface marks on PMMA are mechanically produced rather than a result of chemical breakdown, has perhaps persuaded conservators and conservation scientists that such damage is of less consequence. As for the Panton and Aarnio chairs it may also be that the object is still intact if it has surface scratches, whereas chemical decomposition tends to result in the eventual destruction of the object.

Prioritisation of conservation problems and a focus on the most pressing ones are again understandable. If the intent of a Fine or Applied artwork does not hinge upon surface qualities then surface disruption to PMMA may indeed be superficial. If the modern materials discipline is to continually develop, however, I argue that the debates regarding some of the more subtle aspects of change to plastic artefacts needs to occur. This will enable a mature assessment of the preservation needs of plastic objects, particularly artist jewellery. In the field of artist jewellery where surface is scrutinised due to its scale, and is often a major ingredient of intent, such change is often more than superficial. The PMMA used in Paxon's ring and Puig Cuyas's brooch is not therefore enduring because surface change has occurred readily and is significant. The particular application of PMMA in these circumstances arguably renders the objects quite fragile. The challenge of retaining the flawless surface of these pieces of jewellery has indeed proved problematic, diverging from Keneghan's, Quye's and others' general assessment of PMMA entirely.

Furthermore, preventing scratches from occurring on the surface of, for example, Paxon's ring involves disciplined measures of handling and storage. Certainly beyond that which it has already received and is normally considered appropriate for the jewellery collection at mima. *Squirming Ring* is thus highly vulnerable to change. Similar assessments of fragility could thus be made for the

³⁰ Plastics: Looking at the Future and Learning from the Past, Victoria & Albert Museum, 23rd-25th May 2007

pieces of Cohn, Puig Cuyas and Astfalck, which have variously both homogenous and more decorated surfaces. In the hands of jewellers, these plastic materials do not actually become more delicate, the plastic remains the same, it is the relative importance of the change that is under consideration.

The mechanical breaks in the jewellery by Murphy, Taylor and van Nieuwenborg also have a large impact. Again general assessments and perception of the materials of construction do not take potential differences in application into account. Thea van Oosten, Senior Researcher at the Netherlands Institute for Cultural Heritage, with seventeen years experience studying plastic materials, emphatically expresses the view that UP is 'extremely stable' as a material.³¹ Although she admits she is a conservation scientist rather than a conservator she implies that objects made from UP are also stable in nature, and she regards this as a statement that can be applied for museum objects in general. Van Oosten is referring ostensibly to UP's chemical composition. Yet Murphy's bangle and Taylor's necklace have suffered fractures to the material which is the result of both chemical composition that influences the physical behaviour and the particular manner by which the UP has been applied. The term 'stable' for conservation means to remain unchanged, hence the opposite, unstable, denotes a likelihood of moving to another state.³² Given that both pieces of jewellery have moved to a state that impact considerably on interpreting the intent, surely the material is unstable and vulnerable when the physical properties are considered in these particular circumstances.

The use of UP by Murphy and Taylor exposes a distinct property of the material: brittleness. Divorced from industrial applications such as lorry cabs shells and boat hulls, where it is very rarely used without reinforcing glass or carbon fibres, the UP reveals shortcomings. Arguably the stress placed upon *Bangle* and *Necklace* in use is far less than that placed upon a boat hull or lorry cab. Murphy, who learnt her craft with the material through trial and error, has inadvertently discovered its physical limit in her application.³³ Moreover, the jewellers have exploited properties of UP for use in atypical approaches. In adjoining two sections of unequal thickness and composition (opaque and transparent areas)

³¹ Thea van Oosten, personal discussion, 17 July 2006.

³² Ashley-Smith, Jonathan, *Risk Assessment for Object Conservation*, (Oxford: Butterworth Heinemann, 1999) 111

³³ Kathy Murphy, personal interview, 17th December 2003.

to communicate her intent Murphy has, in fact, rendered the bangle susceptible to fracture. In replicating a conventional and familiar necklace construction, a metal chain, in unconventional material and proportions Taylor has created jewellery that is more vulnerable to breaking than a traditional metal example.³⁴ The work did not receive the preventive care it required preventing this; the illusion of robust metal has proved too false.³⁵

Presumably Taylor did not realise that *Necklace* was physically weak because he did not fully understand the material's properties and the implications of these in practice. Perhaps they were not relevant to him. Nevertheless, reinforcing material would normally be visually and physically impractical for jewellery. Hence it remains that UP in these jewellery applications requires more than a general assessment of its chemical stability to understand its propensity to change. Van Oosten's opinion regarding the stability of UP may be apt in some circumstances but needs refinement in others. Stability of plastic artist jewellery arguably means constancy of the intent, not merely the chemical composition of the materials of construction.

Broad surveys of collections of plastic objects, which include plastic jewellery, to determine object condition and stability have been attempted previously. The data collected, by today's standards of knowledge, tends to be too general.³⁶ Conservation scientist and plastics specialist Yvonne Shashoua, in 1996, reported that within the Science Museum, London, 27.5% of plastic objects required no conservation treatment, 60% required a little treatment but were stable physically, 12% needed essential remedial work, whilst 0.6% were actively deteriorating.³⁷ Similarly, Then and Oakley at the V&A, in 1993, disclose

³⁴ When Taylor's work was damaged the collection did not have any conservation expertise and no handling guidelines for the collection. These are now in place. James Beighton, Craft Curator, MIMA, personal interview, 17th March 2003

³⁵ The exact composition and proportion of catalyst to resin used for *Necklace* are not known but possibly the polyester resin may also have deteriorated to a certain degree causing further brittleness.

³⁶ Shashoua, Yvonne. 'Conservation of Plastics – Is it Possible Today?' Plastics: Looking at the Future & Learning from the Past. London: Archetype Publications, 2008
Shashoua, Yvonne, Conservation of Plastics Materials Science, Degradation and Preservation, (Oxford, Butterworth Heinemann, 2008)

³⁷ Shashoua, Yvonne, 'A Passive Approach to the Conservation of Polyvinyl Chloride,' Pre-Prints of the ICOM CC 11th Triennial Meeting, Edinburgh, Scotland, 1-6 September 1996, (London: James & James, 1996)

that of 4500 plastic objects in the V&A 54% were considered to be in good condition, 24% slightly damaged but stable, 13% required some treatment with 1% needing urgent treatment.³⁸ The emphasis in both cases is chemical stability of material, and less so the propensity of objects to be changed. Whilst change is acknowledged as being present there is no indication, in either survey, of the consequent impact, which, as demonstrated, can vary. Furthermore, they imply that instability of plastic materials may be treated by remedial action. Poor condition may suggest that remedial treatment to solve problems is desirable, but with plastics no treatment may be possible to halt or rectify the deterioration. Shashoua, Then and Oakley suggest that treatment is realistic as a blanket approach for items that were in less than good condition.

These overarching surveys were conducted at a time when conservation scientists were discovering which plastic materials appear most prone to deterioration. In a more recent assessment of the contemporary jewellery collection in the National Museums of Scotland, however, by Dr Anita Quye, the vulnerability of the collection to change was still considered via materials identification.³⁹ On the basis of material content, the jewellery was considered to be either vulnerable to deterioration or not. Quye concedes, however, that what is lacking here is any evaluation of the impact of change on the communicability of the pieces. Once more it is apparent that when evaluating such a varied collection of plastics, forms and applications, material assessment alone is insufficient to appreciate the impact of all evident changes.⁴⁰

³⁸ Then, Edward. & Oakley, Victoria, 'A Survey of Plastic Objects at the Victoria & Albert Museum'. V&A Conservation Journal January (1993): 14

Then, E. 'The Care of a Plastics Collection' Polymer Preprints, American Chemical Society, Division of Polymer Chemistry 37, 2 (1996) 166-167

³⁹ Dr Anita Quye, Conservation Scientist and Dr Liz Goring, Curator of Modern Jewellery, personal discussions, 6th May 2003

⁴⁰ Mossman, S. 'Plastics in the Science Museum, London: A Curator's View,' Saving the Twentieth Century: The Conservation of Modern Materials Proceedings of a Conference Symposium Ottawa, Canada, 15-20 September 1991, ed. D. Grattan, (Ottawa: Canadian Conservation Institute, 1991) 25-33

Quye, A. & Williamson, C. Plastics Collecting and Conserving (Edinburgh: NMS Publishing Ltd, 1999)

Shashoua, Yvonne, Conservation of Plastics Materials Science, Degradation and Preservation, (Oxford, Butterworth Heinemann, 2008)

The mechanical change present on the artist jewellery described above has occurred more rapidly than deterioration. van Nieuwenborg's necklace, where the intent is literally shattered by one fracture, at thirty two years is the oldest jewellery artwork of those summarised and the change occurred before deterioration was evident. The most recent, Paxon's has only existed for three years and has undergone change, despite being in a collection, and theoretically protected. Identifying the high impact of even small change on plastic jewellery is imperative because only then can preventive measures regarding, for example, handling, needed for these vulnerable structures, be put in place.

Understanding the impact of change to plastic jewellery is also critical because options for remedial treatment are limited. Whilst repolishing the surface of scratched works is theoretically possible, this raises questions regarding retention or destruction of the original surface. Repolishing would eradicate the original surface created by an artist, albeit a damaged one. Yet which is more valuable the 'original' surface (whatever that is) or retention of the intent? In today's conservation climate and preferences, retaining the 'original' surface tends to be valued more, even though that may go directly against the artist's intent. Such decisions are needed on a case by case basis. Equally little can be done to reduce the crack in Murphy's *Bangle* as it cannot be made invisible. Even cutting out and replacing this area with a fresh piece of resin is highly unlikely to be seamless, as the exact mix of resin will not be replicated. Any new area will have a different refractive quality. In some instances, however, remedial work may be possible to reduce the impact of change should this be desired. Fortunately, the relatively clean fractures on Taylor's and van Nieuwenborg's artworks could theoretically be mended, but such solutions may not be practical in every case. Prevention of unwanted change is better and easier than treatment, so understanding the impact of change on pieces of plastic jewellery helps emphasise the issue.

'Perhaps damage is payback for the versatility of the material' mused Paxon tolerantly when discussing his application of PMMA.⁴¹ He had not considered that his work would change and in this instance in his opinion to its detriment. His personal exploration of PMMA involved only discovering what could be achieved creatively, rather than longer-term limitations. Some of these are apparent after a very short timespan. His tolerant acceptance of the fate of his work is perhaps

the only way he is able to react because it has been demonstrated to him that he did not understand all aspects of his material. Paxon's level of understanding of the material properties as applied in his work is not the only shortcoming. The ease with which the change occurred and its consequent impact was also overlooked by the owning institution. What has become apparent as the result of this and the other works described is that in the discipline of artist jewellery small changes to plastic artworks matter because their impact is considerable. A plastic material and an artwork created with it may be more prone to change than initially or generally realised.

⁴¹ Adam Paxon, Personal interview, 19th March 2004

5.2 Change – A Positive Attribute or a Detriment?

Some change to objects may be considered detrimental whilst other less so and at times, may even be considered an attribute to an object. In many cases a positively viewed change may constitute a reference to the past, embodied in that object. A conservator is charged with identifying changes that have occurred and they must decide whether these changes are acceptable or unacceptable whatever the material in hand and from a variety of causes. During this research it became evident that change to artefacts created from plastics tends to be interpreted negatively.⁴² Plastics degrade and this is a problem to understand and mitigate as far as possible. The fact that artefacts created from plastics could mature or even evolve over time with change as a part of this is rarely emphasised. Why should this be when, as will become clear, all manner of other artefacts are assessed in this way. Subtleties of interpretation for plastic artist jewellery are at present overlooked or not explicitly stated as a result.

The research presented here argues that changes to plastic artist jewellery, often as evidence of use, can be something to be valued and retained and is not always detrimental. At times change from use is a positive attribute and at the very least may overlay the intent rather than merely detracting from it. It is, however, acknowledged that such assessments, as they are for all objects, will not be without complexity and subjectivity. Artworks require individual assessments to determine the outcome in each case. Even when a definitive answer is not forthcoming, awareness of the range of possibilities regarding the impact of change is preferable to oversight. Most importantly, plastic artist jewellery must be viewed in the same framework as other objects to enable sensitive and appropriate assessments regarding change. Historic jewellery and that created from metals already has such judgements applied. Changes to plastic artist jewellery, and plastic artefacts more generally, should be equally valued where appropriate. This judgement can be used as a starting point of deciding whether to treat changes or accept them.

⁴² Albus S. et al Plastic Art a Precarious Success Story, (AXA Art Insurance Publication, 2007)

Keneghan Brenda & Egan, Louise. Plastics: Looking at the Future and Learning from the Past, London: Archetype Publications, 2008

Lovett, Doon, The Deterioration of Polyurethane Foam with Reference to Foam Laminated 1960s Dresses, Diss. Textile Conservation Centre, U of Southampton, 2003.

Morris, Roisin, The First 'Truly' Synthetic Fibre: Investigating the Current Stability of Early Examples of Nylon Objects in Museum Collections, Diss. Textile Conservation Centre, U of Southampton, 2003.

Several artist jewellers have articulated perceptive comment regarding the impact of change to their work. These remarks make a pertinent starting point for discussion since they raise several important issues. David Poston (b.1948) publicly asserted jewellery is 'quivering with life' as it sits on his workbench waiting for repair, implying a supplement to the artist intent - human contact - has accrued.⁴³ Poston went on to describe that in practice he refers to sheen, scratches or indents that result from placing jewellery repeatedly on the body. As already acknowledged, this type of judgement by Poston is loaded with values and always will be but nevertheless is one that reveals his attitude toward change to his work. In this instance he appears to view these changes in a positive rather than negative manner. The artist can indicate what level of change to their artworks they will tolerate. Finally, as Poston indicates, the impact of the human body is important to jewellery artworks.

Two further artist jewellers provide eloquent descriptions of the impact of change to their and others works. Crucially both use the word patina to describe what they see. At the beginning of my research I also applied the word patina to changes to jewellery I viewed. This much is evident within the artist interviews conducted. As the research progressed and my thoughts deepened my view altered because as will become clear below 'patina' and all it implies is not helpful for this discussion and is best avoided. Despite this use of 'patina', jeweller Jan Yager (b.1953) demonstrates that she views change to jewellery artworks as far more than something that merely detracts. Change in her understanding is a memoir of society located on an inanimate object, accruing slowly and gaining credibility, and is not instantaneous. She explains,

'the patina of time and use [on jewellery] add nuance and complexity, and are not easily replicable in other ways. Imprints imply history and intimacy. These indicators are very powerful and poignant reality checks for the observer, and can conjure up a range of emotions from pleasant memories to revolting thoughts.'⁴⁴

⁴³ David Poston made the statement during the 'Conference Discussion' chaired by Jane Adam, [Eye of the Beholder](#), The 3rd Association for Contemporary Jewellery Conference, Manchester Metropolitan University, UK, 10-13 April 2003.

⁴⁴ Jan Yager, correspondence by email, 10th November 2003 Parentheses added by author

Objects fascinatingly express a past that today only they can conjure. Even jeweller David Watkins (b.1940), a self proclaimed pragmatist, could not deny objects accumulate the past. He convinced himself,

'I am very suspicious of the idea that things implicitly gain beauty as they get older, in fact I would say they get patina [laughs]. They betray their age and their use and this is interesting and occasionally to beautiful effect. But I don't accept this is more beautiful...It looks old and interesting and begins to have ethnicity, social attributes if you like and that is fascinating, however, it is not the thing, it's other things overlaid on it.'⁴⁵

Watkins' view reinforces the idea that surface change is additional to an object and is not necessarily change that detracts, even if he concludes the change is not actually desirable by him. Moreover, Watkins' dilemma in selecting an axiom accentuates that the evidence of the past he senses on objects is complex to express, and is quite possibly why conservators, initially including the author, readily adopt the phrase patina in a wide variety of circumstances.

Patina is a term heavily loaded with value judgements and is vastly misused in conservation literature. Its application in this context would certainly constitute another level of confusion that is best avoided. The following will explain why. The brief study of the words patination and patina for conservation also serves to highlight why identifying the impact of change on objects is important. Some clashes of interpretation and consequent treatment processes will be avoided.

Patination, rather than patina, is where chemical change is deliberately and permanently realised to metal surfaces creating colour or decoration as part of an original scheme.⁴⁶ Patina is a corrosion layer that forms on the surface of metals. The characteristic greenness of the bronze Statue of Liberty, New York is an internationally renowned example (see fig 79).⁴⁷ For metals patina and

⁴⁵ David Watkins, personal interview, 18th July 2006 Parentheses added by author

⁴⁶ Getty Conservation Institute 'Finding a Certain Balance: A Discussion about Surface Cleaning,' Getty Conservation Institute Newsletter, 15.3 Fall (2000)

Hughes, Richard & Rowe, Michael, The Colouring, Bronzing and Patination of Metals, (London: Thames and Hudson, 1991)

⁴⁷ Caple, Chris, Conservation Skills, Judgement, Method and Decision Making, (London: Routledge, 2000) 43

corrosion are chemically the same thing. How this is viewed is a value judgement and will also often determine whether the word patina (generally positive) or corrosion (generally negative) is applied. Stone artefacts can also develop and carry patina as, like metal, the surface of the material attempts to reach equilibrium with its environment (see Fig 80).⁴⁸ Yet the frame of reference for patina within conservation is increasingly broad with unintentional and artificial changes sometimes included. Surface change caused by wear and tear, additional glue layers, ingrained soiling from use, exposure and museum storage, even layers of loose dust, on a seemingly endless array of objects have been recorded as patina.⁴⁹ Entire historic properties and their contents, individual pieces of decorative and Fine Art and more recently modern sculpture have also been considered capable of having patina. Such wide use is inappropriate because the term is so loaded with undefined value judgements they are difficult to unravel and ultimately apply in practice.



Fig 79. View of the Statue of Liberty, New York, showing a complete green covering of oxidised copper

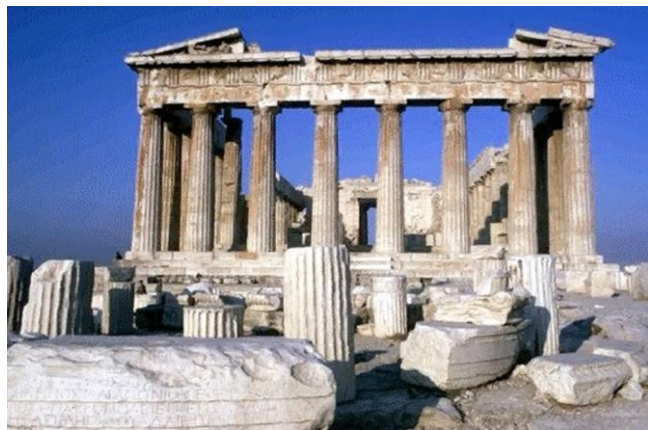


Fig 80. View of the Parthenon, Athens, showing the orange brown patina that has developed on its surface

Kouzeli, K. 'The Composition and Structure of the Patina on the Parthenon and other Greek Monuments,' Cleaning the Parthenon Sculptures. The British Museum XXIIIrd Classical Colloquium, 30th November - 1st December 1999.

⁴⁸ Cooper, M & Larson, J. 'The use of Laser Cleaning to Preserve Patina on a Marble Sculpture,' The Conservator 20 (1996): 28-36

Scott, D. 'The Examination of the Patina and Corrosion Morphology of some Roman Bronzes,' Journal of the American Institute for Conservation, 28 (1997) 194-203

⁴⁹ Beck, James & Daley, Michael, Art Restoration: The Culture, the Business, the Scandal, (London: John Murray, 1993) 63-102

Berkens, Lydia, 'A Contemporary Cleaning Controversy,' ed. Ijsbrand Hummelen & Dionne Sillé Modern Art Who Cares? 2nd ed. (London: Archetype Publications, 2004) 127

Lloyd, H. Brimblecombe, P. & Lithgow, K. 'Economics of Dust,' Studies in Conservation 52 2 (2007): 135

William B Adair, a gilding conservator, admitted 'one person's dirt is another's patina' in his attempt to clarify the array of interpretations.⁵⁰ More helpfully, British Museum scientist Susan La Niece indicates that institutions tend to develop their own tight definition to suit their objectives because it is now such a broad term.⁵¹ As an expert in metalworking techniques La Niece favours definitions of patination and patina that refers to intentional and natural change of metals respectively. Still within this limited remit subjectivity and potential inconsistency can exist.

Recognising patina is critical because conservators could otherwise decide to remove crusts, soiling and even possibly scratches and unevenness that is inappropriate. Conservators frequently seek to retain patina as evidence of history or as veracity on objects and there is an expectation that it exists. When arguing to retain the orange brown colouring on the Parthenon conservator Kouzeli argued it was patina and insisted it 'gives a characteristic appearance and is familiar to the Greek people.'⁵² Such acquaintance was, for her, justification for keeping the colour. Air-borne bacteria and pollutants in the atmosphere in fact cause the colouring, which have now developed into crusts (see fig 80). Designating the discolouring patina also appears to be part of Kouzeli's argument for retaining this. She interprets patina as a positive attribute. It could be disputed whether the colouring is desirable or not and it may be equally valid to call the sculptures' 'patina', 'dirt'. Similarly, conservator Caple contends that removing the patina from the Statue of Liberty would dramatically undermine its authority, rendering it unable to support the reassuring optimism embodied within this celebrated monument.⁵³ He suggests the visible surface patina is the physical receptacle in which the expectations of millions of people are placed. Although some may agree with both these ideas they remains highly subjective.

⁵⁰ Adair, William B. Gilding Conservation: One Person's Dirt is Another's Patina, Abstracts Wooden Artefacts Group of the American Institute for Conservation, AIC annual meeting, 2005. Available online at <http://www.wag-aic.org/abstracts05.html> accessed 6th March 2006

⁵¹ Susan La Niece, Conservation Scientist, British Museum, personal discussion, 22nd May 2006

⁵² Kouzeli, K. 'The Composition and Structure of the Patina on the Parthenon and other Greek Monuments' Cleaning the Parthenon Sculptures, The British Museum XXIIIrd Classical Colloquium, 30th November - 1st December 1999.

⁵³ Caple, Chris, Conservation Skills, Judgement, Method and Decision Making, (London: Routledge, 2000) 43

Whilst recognition of patina on objects is possible, although subjective, defining its significance can differ considerably. Published conservation and art historical literature that refers to the effect of patina includes descriptions that are positive, adding 'beauty' or 'dignity' but also confusingly, negative, for example 'vile'.⁵⁴ Making patina a positive and negative attribute simultaneously. Unless it is deliberately applied coating e.g. patination of metals - the term 'patina' cannot be clearly defined - it is simply discolouration or surface change that is either dirt or damage - whether chemical or mechanical.

Recent criticism levelled at conservators regarding detection and retention, reveals serious problems that can arise when separate parties understand the occurrence and significance of patina differently, through a lack of established definition. Art historian Professor James Beck has waged a sustained and blistering attack on the conservation cleaning of the Sistine Chapel ceiling because he believed the glue and dirt constituted an appropriate, and anticipated, muted look for Michelangelo's work.⁵⁵ The conservators evidently thought differently, removing the layers to reveal what they considered were original colours. More recently Mark Jones, Director of the V&A, published a diatribe containing his desire to see patina on historic objects and bases his criticism of conservators on failure to observe and retain such historic evidence, which he describes as 'a shame really'.⁵⁶

Although subjectivity will never be removed from such judgements, confusing and emotive language can. Although even artist jewellers are tempted to use the word patina in respect to changes they see, is not an appropriate term to describe and assess changes to plastic artist jewellery. I propose simply the word 'change' is applied to plastic artist jewellery because it is less emotive;

⁵⁴ Ashley-Smith, Jonathan, Risk Assessment for Object Conservation, (Oxford: Butterworth Heinemann, 1999) 101

York Archaeological Trust The Portable Antiquities Scheme Conservation Note 5: Cleaning and Protecting available online at <http://www.finds.org.uk/conservation/note5.php> accessed 6th March 2006

Getty Conservation Institute, 'Finding a Certain Balance: A Discussion about Surface Cleaning' Getty Conservation Institute Newsletter, 15.3 Fall (2000)

⁵⁵ Beck, James & Daley, Michael, Art restoration: The Culture, the Business, the Scandal. (London: John Murray, 1993) 63-102

⁵⁶ Jones, Mark. 'And Another Thing!' ICON News 2 January (2006): 48

before going on to describe the cause of the change and deciding whether it is acceptable or not.

Surface Change to Historic Jewellery and its Acceptance

Judgements surrounding the concept of acceptable change have, perhaps unsurprisingly, an established presence in jewellery made from conventional materials. Metal jewellery can carry intentional patination as surface decoration as well as marks of passing time through environmental exposure, such as tarnish on silver, or simply wear and tear from regular use. Pieces of neo-renaissance jewellery from the 19th century, for example, carried a deliberate patination to suggest it had come into contact with the period it emulated, despite its actual newness.⁵⁷

Change resulting from use may intensify what jewellery communicates to and for society purely because it demonstrates past times. The proprietor of Sinbad Antiques, in the Blue Souk, Sharjah, United Arab Emirates, fundamentally values his antique silver Omani jewellery on the basis of age (as well as workmanship), which is demonstrated by a synthesis of natural tarnish and indents caused by wearing (see fig 81).⁵⁸ In this eastern tradition, touted to a western market, the older jewellery is most esteemed, since stylistically few changes occurred from generation to generation. Here historic jewellery is seemingly anticipated to look old and visible changes to the original appearance is how age is at least partly recognised. Indents, in particular, caused by human contact, form an enduring substantiation of passing time and provide context (see fig 82). In essence the changes are a positive asset for the jewellery as they provide crucial evidence.

⁵⁷ Bury, S. *Jewellery 1789-1910 The International Era*, (Woodbridge: Antique Collectors Club, 1991)
Biffar, D. *Schmuckstücke der Neorenaissance*, (Stuttgart: Verlag Gerd Hatje, 1996)

⁵⁸ The author purchased a silver Omani anklet, originating from the city of Sur, and dated between 50-100 years old from Sinbad Antiques, in the Blue Souk, Sharjah, United Arab Emirates, 7th April 2006.



Fig 81. Silver anklet from Oman bought in Sharjah, UAE, showing use wear, author's collection



Fig 82. An anklet similar to fig 81 in use demonstrating how indents from wear might be caused

Artist jewellery created from metals, contemporaneous with that produced from plastics, exemplifies an ongoing use, recognition and acceptance of intentional patination and evidence of change over time. Since the 1960s artist jeweller Gerda Flockinger (b.1927) has recurrently used intentional patination as a decorative device on the surface of her organically derived pieces (see fig 83). Furthermore, some of her past work, particularly silver pieces, now exhibit tarnish and soiling to the point that those held in the V&A collection were recently evaluated for cleaning. Even at a relatively youthful thirty to forty years old the pieces were cleaned to reveal the original patination but, in the conservator's estimation, not utterly stripped of the accumulated tarnish. Further cleaning would render them too shiny thus belying their period, a fate that can befall all jewellery according to Senior Metals Conservator, Joanna Whalley. Whalley contends some tarnish should remain around the intricate areas of jewellery after conservation cleaning.⁵⁹ Clarity surrounding how to distinguish original patination and accumulated tarnish is less forthcoming. Whalley makes an assumption that jewellery that is not new should appear aged. Moreover, she feels well placed to make judgements without reference to the artist and to decide at what point the cleaning process is halted.⁶⁰ Jewellery that is not completely contemporary should not look as though it has 'come from the factory' concurs Consultant Jewellery Curator for the jewellery gallery, V&A, Dr Beatriz Chadour-Sampson. In Chadour-Sampson's opinion gleaming silver so often used for stone setting as well as structure would look misplaced if over cleaned.⁶¹ Seemingly both specialists instinctively sense that metal jewellery can

⁵⁹ Joanna Whalley, personal discussion, 7th February 2006

⁶⁰ Joanna Whalley, personal discussion, 7th February 2006

⁶¹ Dr Beatriz Chadour, personal interview, 23rd March 2006

and even should demonstrate that change has occurred over time and apparently this is not limited to pieces of great age.



Fig 83. Gerda Flockinger *Earrings*, 1987 (silver, pearl)

As with many issues in conservation these standpoints are incredibly subjective. But they highlight issues for practical application of cleaning and interpretation. No definition is given as when contemporary jewellery becomes old. Without reference to the artists these specialists assume they are qualified to make the decisions regarding future appearance. Surely if the jeweller wanted a patinated appearance, they would have added it at the making stage, so what is wrong with complete cleaning of such pieces in the future? Will future visitors perceive Flöckinger's work as covered with patination as a result and is this acceptable? At present Whalley and Chadour-Sampson appear to value their own personal judgements only and not those of multiple stakeholders. Despite these flaws in their arguments, however, if change accumulated through time and, importantly, through wearing is recognised and even expected on jewellery made from conventional materials of many ages, then should jewellery from plastic materials be viewed otherwise? Whilst plastic does not tarnish and this particular marker of time is excluded, plastics do quite readily acquire indicators of use both on their surface and structure. Moreover, jewellery constructed from any material is fundamentally designed for the body and so theoretically can accrue history caused by wearing.

Identifying and Accepting Surface Change to Plastic Objects

Plastic materials are a late entrant to the debate about surface change and its recognition, acceptance or rejection. The ubiquitous nature and familiarity of plastics, alongside their frequently disposable nature, determines that they are seldom considered as receptacles of social attributes. The philosopher Roland Barthes described plastics as 'household materials' in reference to their universal character.⁶² The commentator H Arno Hensler views plastics as a 'victim of cultures' esteem of different materials' because he perceives they have a low status, which is a result of the 'material decadence of 1950s onwards.'⁶³ Within the last decade or so, the rush by the conservation profession to understand their sometimes catastrophic chemical and material deterioration has led to such objects being frequently described by their material content and molecular structure. Less often is the social and historical consequence of any evident changes discussed.⁶⁴ Acknowledgement of surface change to plastics has at times been ridiculed within conservation, with previous debate remaining limited, anecdotal and lacking depth (see fig 84).



Fig 84. Illustration showing an approach to identification of 'patina' on plastics in conservation⁶⁵

⁶² Barthes, Roland, *Mythologies*, 1957 Trans. Annette Lever. (London:Vintage, 1993)

⁶³ Arno Hensler, H. 'No Title' Buhs, Bussi ed. *Kunststoff als Kunststoff Artificial Materials*, (Munich: Akademie der Bildenden, 1998) 38-41

⁶⁴Grattan, D. ed. *Saving the Twentieth Century: The Conservation of Modern Materials* Proceedings of a Conference Symposium Ottawa, Canada, 15-20 September 1991. Canadian Conservation Institute. 1991

⁶⁵ Quye, Anita & Williamson, Colin eds. *Plastics, Collecting and Conserving*. (Edinburgh: NMS Publishing Limited, 1999) 33

Isolated but diverse attempts to establish a principle that plastics can carry change worthy of consideration exist. These examples reinforce the view that plastics should be considered in the same frameworks as other materials and objects. Moreover, there is a growing need for this debate because plastic materials are increasingly acquired for museums and collections.⁶⁶ In 2002, for example, Hampshire County Council Museum and Archive Service purchased an extensive collection of small household and functional plastic items. The collection was purchased from Michael Trainor, an artist and collector, for Milestones- Hampshire's Living History Museum to represent the things that ordinary people used in the past.⁶⁷ Interest in the ordinary is equally endorsed by Dr Edward Then, Senior conservator in New Materials at the Science Museum, London. When evaluating plastic computer cases that had noticeably yellowed and discoloured he mused 'maybe, one day, the discolouration will be seen as desirable or inevitable, like the patina on metals!'⁶⁸ For him non-removable and non-reversible yellowing is a sign of maturation, not just of oxidation and material deterioration. Instead he believes it is an indicator of cultural esteem. Perhaps an acknowledgement of the significance and all pervading presence of computers in the contemporary world. In defiance of Barthes and Arno Hensler, Then implies ageing and discoloured computers should be regarded more highly, not overlooked (see fig 85).

⁶⁶ Penfold, Alastair, New Acquisitions and Purchase Funds : January to August 1999, Hampshire County Council Museums Panel, 5 October 1999

⁶⁷ Personal discussion Sarah Howard, Head of Conservation HCCMAS, 12th March 2006; Kulagowski, Yvonne, 'Micheal Trainor,' Eye of the Beholder 2003, (Association for Contemporary Jewellery, 2004) 14

⁶⁸ Then, Dr Edward, The Discolouration of Plastic Computer Cases, Available online at <http://www.thq.org.uk/info/plastics.htm> accessed 6th March 2006



Fig 85. Apple II computer, originally launched 1977

Then's assessment designates the surface change he sees as 'patina' thereby deliberately aligning the plastic computers with other objects that are subject to this type of judgement. Arguably there is some similarity with a patina or corrosion on the surface of metals. Chemical change has occurred to the surface of the plastic much as it does with a metal surface. Both can be seen as either a detriment or a positive attribute. Then is highlighting the change because he believes it is positive and the computers need greater attention regarding these issues. There is, however, no escaping the fact that Then's assessment is loaded with personal value judgements in the way that patina, rather than patination, frequently is. What Then overlooks is whether signs of use on the computers which can also be interpreted as evidence of the past. Perhaps his immediate museum examples did not express this. By comparison, appraisal of another undeniably omnipresent artefact of the present day does just that. The New Zealand Society of Gunsmiths encourages members to recognise the surface of guns as carriers of past evidence, described by them as 'traces of production, age and past use, as well as other changes produced by its history.'⁶⁹ As the society expounds, guns are multi-media objects incorporating plastics, and surface changes are not necessarily detrimental because in their view they are 'not things which mar the gun's aesthetic appearance and consequently should

⁶⁹ Osbourne, John, *Conservation vs Restoration*, New Zealand Society of Gunsmiths Inc. available online at <http://www.gunsmithsociety.com/conservation-vs-restoration-print.htm> accessed 6th March 2006.

not be erased.⁷⁰ Once more this is a perspective with value judgements at its heart but from this extremely unlikely quarter it is demonstrated that plastics, as components, are on equal terms with other materials. There is no question that plastics cannot carry evidence of wear and age. Moreover, in both these examples it is demonstrated that surface change on plastic materials can be viewed in a positive light.

In the two preceding examples the cause of the change discussed, and was ultimately valued, differed. Then's computers had undergone chemical change whilst the guns had accumulated change from use. Derek Pullen, sculpture conservator at Tate Gallery assesses chemical, hence colour, change to sculpture to determine its impact. Although the cause of the change has similarities with Then's computers, Pullen concludes the change is not so much a positive characteristic but is one that has only minor consequence for interpreting the artwork. Yet I challenge Pullen's perspective, thereby demonstrating that value judgements on plastics are also subject to more than one interpretation. Moreover, it is apparent that not all change caused in a similar way can be viewed as equivalents.

Naum Gabo's (1890-1977) celluloid (cellulose nitrate) *Model for Column*, 1920-1 is now yellowed, an alteration from its original colourless and transparent appearance (see fig 86). Pullen asserts that despite the plastic darkening 'it remains a vivid illustration of his original concept' because the structure remains unchanged.⁷¹ This is not the case, however, if Gabo's intent, to delineate the vastness of space, is taken into consideration.⁷² The dark yellow colour now severs and dissects the continuum of space Gabo envisioned; the intent is distorted. I argue that the yellowing Pullen observed is in direct conflict with the artist intent and the impact of the change is not only significant but also detrimental. Thus it becomes obvious judgements regarding change can be

⁷⁰ Osbourne, John, Conservation vs Restoration. New Zealand Society of Gunsmiths Inc. Available online at <http://www.gunsmithsociety.com/conservation-vs-restoration-print.htm> accessed 6th March 2006.

⁷¹ Pullen, Derek, 'Managing the Change – The Conservation of Plastic Sculptures Works by Naum Gabo (1890-1977) and Tony Cragg (b. 1949),' Material Matters, ed. Jackie Heuman (London: Tate Gallery Publishing, 1999) 102

⁷² Hammer, Martin & Lodder, Christina, Constructing Modernity: The Art and Career of Naum Gabo, (London: Yale University Press, 2000)

applied to plastic artefacts, even if not all change to plastic artefacts is positive or agreed by all stakeholders.

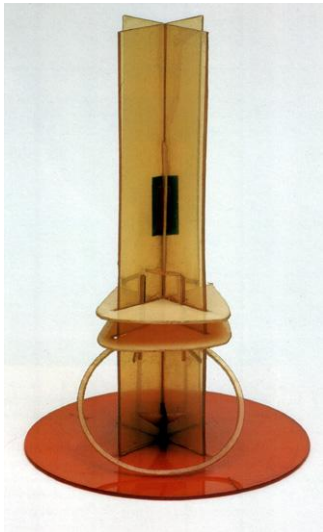


Fig 86. Naum Gabo, *Model for Column*, 1920-1 (celluloid) Tate Gallery

What is missing from the assessment of Gabo's work is the artist's opinion; who unfortunately is no longer available for consultation. Without this conservators and other stakeholders must decide whether change to an artwork is acceptable or unacceptable. Where possible, taking into account artist opinion is useful because the artist may indicate what level of change they will tolerate on their artworks. Such a statement still has problems, however, because it is only valid if the artist's opinion is given credence over and above the conviction of other stakeholders. In the absence of a method devoid of subjectivity artist opinion at the very least can offer one foundation on which later judgements by multiple conservators can be based. Furthermore, what is important is that changes to plastic artefacts are at least recorded without the use of emotive language such as patina and damage because assessing the impact of change will always remain subjective.

Change from Use on Plastic Artist Jewellery

For this research artist opinion is sought and is now discussed in respect to change on plastic artist jewellery. Moreover, artist opinion is given credence in this research because it gives insight into some artist jewellers' perspectives which is hitherto unrecorded and has not previously been taken into account in this context. Unlike Gabo's *Model for Column*, but similar to the guns discussed above, jewellery is fundamentally designed for touching through wearing and the functional nature of jewellery is important for the following evaluation. As we shall see use can cause structural change as much as surface change.

Precedents for evaluating change to plastic artist jewellery exist. Commercially produced plastic jewellery has been subject to value judgements of this nature with the conclusion that change is a positive attribute. Authors and collectors Corinne Davidov and Ginny Redington Dawes, in their stylistic narrative of Bakelite (phenol formaldehyde resin) jewellery, suggest that the now darkened surface is 'much like a patina on a fine antique.'⁷³ They go on to qualify their summation by instructing that colour changes over time have 'improved the look and desirability of a piece' (see figs 87 & 88).⁷⁴ The jewellery that they refer to is mass-produced, predominantly during the 1930s. Nowadays these colourful and often quirky pieces are highly collectable. In the wake of a buoyant second hand market, highlighting such positive change is beneficial financially, and this is probably the motivating force behind such interpretations. The colour change is, in fact, most probably due to environmental exposure and is difficult to mitigate for objects, particularly for those not kept in a museum environment. That the phenol formaldehyde resin jewellery improves with change remains the opinion solely of these authors. Figs 87 & 88 illustrate phenol formaldehyde bangles in two states; some with a darkened surface and some with the surface stripped away to show the original pastel hues. Having argued that darkening is a positive attribute Davidov and Redington Dawes undermine their own thesis by demonstrating that removing the dark surface is possible and even desirable. Are the bangles with the surface removed less valuable on the second hand market as a result? No comment is given. Presumably this will depend on the perspective of the buyer. It seems as though Davidov and Redington Dawes are

⁷³ Davidov, Corinne & Redington Dawes, Ginny, *The Bakelite Jewelry Book*, (New York: Abbeville Press, 1988) 62

⁷⁴ Davidov, Corinne & Redington Dawes, Ginny, *The Bakelite Jewelry Book*, (New York: Abbeville Press, 1988) 62

aware of the deterioration but do not know what to do about it and so are framing it as a positive thing. As ever subjectivity is at play and a range of perspectives are possible within this one scenario.

Furthermore, the perspective of Davidov and Redington Dawes entirely disregards the fact that jewellery is for wearing. What these collectors do not consider is that many bangles also carry a deep sheen and numerous small indents on their surface as a result of wear, in addition to the darkening. Thus they present only half the evidence that communicates the age and history of the bangles and their appraisal of artefacts are less perceptive than the New Zealand gun enthusiasts.



Fig 87. Phenol formaldehyde resin bangles, c. 1930s, showing a darkened surface



Fig 88. Phenol formaldehyde resin bangles, c. 1930s, with the darkened layer removed revealing their original colour

Artist jeweller Jivan Astfalck (b.1960) who has worked with thermosetting resins reinforces the idea that the body is the bedrock for jewellery. The body plays a central role in the lifespan of a jewellery piece, and its effect cannot be ignored. She believes, '[jewellers] make jewellery and that goes onto the human body and we are interested in people ... I always see the object in relation to a living being and the narrative of that being.'⁷⁵ For Astfalck people and jewellery are intrinsically linked, jewellery cannot exist without the presence of humans since without humans there is no need for jewellery. Recognising the impact of the body on jewellery is fundamental in Astfalck's opinion, and strengthens the

⁷⁵ Jivan Astfalck, personal interview, 18th June 2005 Parenthesis added by author.

proposal that change to plastic jewellery must be taken into account when the impact is evaluated.

Observations expressed by artist jewellers who create with plastics, expose the conservation profession's lack of consideration of human impact on plastic objects in general, and jewellery in particular. In the following two examples there is no doubt that change to jewellery can also be seen as a positive attribute. Jeweller Kathie Murphy (b. 1966), who uses polyester resin as her principal material, has created many pieces with an overall opalescent and slightly pitted surface texture. The texture is created by tumbling her sanded and smoothed resin shapes in pumice (see fig 89).⁷⁶ The finished jewellery has a precise and deliberately worked appearance that for Murphy evokes the texture of 'a piece of glass on a beach where it is very matt.'⁷⁷ Murphy's intent is to raise the profile of polyester resin as an artistic medium. She aims to demonstrate how a material, devised for industrial use, can be transformed into an object with artistic and aesthetic quality. She explains 'to me it is a material that can change by the power of thought.'⁷⁸



Fig 89. Kathie Murphy, *Bangle*, 2002, (UP, cotton thread) artist's collection, showing the original soft textured sheen



Fig 90. Kathie Murphy, *Bracelet*, 1999, (UP, rubber) showing a surface shine that results from wear, and is now replacing the original texture

Since the surface of polyester resin is relatively soft the act of touching and wearing the jewellery permanently changes the fabricated surface. Over the space of two or three years of moderately regular wearing the texture is burnished away by bodily abrasion, creating a smooth more shiny surface

⁷⁶ Kathie Murphy, personal interview, 17th December 2003

⁷⁷ Kathie Murphy, personal interview, 17th December 2003

⁷⁸ Murphy, Kathie, *Resin Jewellery*, (London: A&C Black, 2002) 17

instead (see fig 90).⁷⁹ Light is reflected intensely from prominent areas, whilst protected niches retain their original texture. The artworks become noticeably different from their original appearance. Far from lamenting the alteration, despite the labour needed to produce the finished article, Murphy welcomes it, finding the smoothness created by the body captivating.⁸⁰ She discovered 'it will shine up with wear, I prefer this polish though. A patina I suppose I would call it...a hard polish. Can you see the difference, it just looks loved? Very soft and tactile that is what I really love about this. The thing of touching and feeling is important.'⁸¹ The new surface adds another layer to her work that she had not originally envisaged or planned. She sees the outcome as serendipity and a further indication of the intimacy of jewellery because the shininess demonstrates the jewellery has been part of someone's life. Her intent is not distorted but enriched because it forms further proof that ubiquitous plastics can be personal, reciprocating the touch of the human body. Murphy continues to create the textured surface on new pieces knowing that it will eventually become smooth, inviting change through use to develop. The newer shiny surface embodies perhaps greater value than the original for the artist. Murphy's perspective implies that reinstating the original texture would remove that added value. Unlike the phenol formaldehyde resin bangles above Murphy offers greater clarity for future decision making of her work. Despite Murphy's use of the phrase 'patina' I reiterate that using the word is not helpful this due to its emotive connotations. What is important here is that Murphy's standpoint regarding the impact of change from use to her work is recorded for future reference.

For Murphy the change to the surface is readily discerned, by contrast a similar surface alteration is seen in Jeweller Lesley Strickland's (b.1955) pieces but the change from use is more understated, but exists nevertheless. Strickland creates jewellery from cellulose acetate, cutting components from sheets before heat forming, sanding and creating a surface texture by tumbling with abrasives.⁸² The finish of her bangles, earrings and brooches has visual similarity to that of Murphy's work but the message she communicates differs. Her choice of material, the surface and sensation it offers, combined with the colour, are

⁷⁹ Kathie Murphy, personal interview, 17th December 2003

⁸⁰ Kathie Murphy, personal interview, 17th December 2003

⁸¹ Kathie Murphy, personal interview, 17th December 2003

⁸² Lesley Strickland personal interview, 12th January 2004

meant to invoke motherhood and womanliness to articulate that wearing jewellery is personal a 'more womanly thing'.⁸³ She concludes 'soulful and softer' forms are possible with cellulose acetate rather than PMMA, the material she used in her career initially.⁸⁴ The smooth curvatures of her jewellery shapes and the warm velvet feel of the material are deliberately complemented by quiet colours that do not jar with the shapes, *Bangle*, 2002 (see fig 91). Visually the grey colour is soothing and the opaque textured surface is designed to enhance the softness of cellulose acetate when it touches the body. Similar to Murphy's jewellery, when worn the surface texture wears away but the effect on the jewellery differs. The cellulose acetate becomes smooth and the subtle polishing effect of the body renders it translucent. *Bangle* 2002, worn regularly over four years displays the change through use that develops on Strickland's work (see fig 91). Strickland does not mind the change, although like Murphy it was not original to her concept, because it is evidence that her artistic message is encountered through wearing.⁸⁵ She notes 'if you don't wear my work they get quite dull on the surface after a while.'⁸⁶ With this statement she implies that the polishing effect of the body on her jewellery is an acceptable phenomenon naturally associated with the wearing of jewellery.



Fig 91. Lesley Strickland, *Bangle*, 2002 (cellulose acetate) author's collection

Both Murphy and Strickland communicate that change through use is overwhelmingly positive. Moreover, on examination the surface changes evident on their artworks are readily attributed to use. The viewpoint of both artists suggests that such change is valued by them and that retaining the changed

⁸³ Lesley Strickland, personal interview, 12th January 2004

⁸⁴ Lesley Strickland, personal interview, 12th January 2004

⁸⁵ Lesley Strickland personal interview, 12th January 2004

⁸⁶ Lesley Strickland personal interview, 12th January 2004

surface once it has developed does not cause them great concern. Although on one hand the original intent is altered, the manner of the alteration actually reinforces the artists' overall intent and rationale behind their material choices. These artist opinions will inform a conservator when evaluating the impact of change through use for their artworks and any consequent treatment proposals.

Whilst Murphy and Stickland discussed subtle evidence of human contact on the surface of their work artist jeweller Wendy-Sarah Pacey (b.1972) highlights the presence of scratches and their appropriateness on her jewellery. Murphy and Strickland are reactive and perceptive toward changes from use to their artworks and, due to the nature of the change they refer to, this is helpful for a conservator. Although Pacey attempts to do the same, the change she has encountered on her work is less easily distinguished and attributed. This case study demonstrates that recording strongly held artist opinion regarding change is helpful, some challenges still remain.

In Pacey's opinion marks that result from wearing on her artworks are acceptable. Those scratches that result from neglect, on the other hand, are detrimental for her. Pacey's poly(methyl methacrylate) PMMA jewellery is created with a flawless and very highly polished surface finish to express her intent. She aims to 'make plastic precious' by emulating the colour and surface of much harder gemstones, in her rings, necklaces and earrings (see fig 92).⁸⁷



Fig 92. Wendy-Sarah Pacey, *Triple Leaf Brooches*, 2001 (PMMA, metal foil, stainless steel)

⁸⁷ Wendy-Sarah Pacey, personal interview, 1st March 2004. Wendy-Sarah Pacey's artistic intent is more fully discussed in chapter 3.

Using her work Pacey aims to alter the perception of plastic by believing as Murphy does that 'the power of thought' can transform it. Over time, however, Pacey has learnt that PMMA differs dramatically from precious gems in terms of surface behaviour. The relatively soft plastic scratches readily and when worn acquires flaws and surface indents. In Pacey's opinion, the veneer of preciousness is broken, when blemishes appear, as the true identity of the plastic as an everyday material becomes apparent.⁸⁸ Yet to reconcile the limitations of her material Pacey admits that surface marks will occur when worn, dismissing it as 'bound to happen' and something she is 'not so fussed about.'⁸⁹ She asserts that marks from human contact from wearing are permissible because they are predictable. She does not so much view scratches from wear as adding value but nor does she communicate they are detrimental. Marks and indents that result from carelessness, display or storage in museums or galleries are not tolerable in Pacey's view, as they are avoidable.⁹⁰ She feels that displaying her work with flaws that result from accidental means would misrepresent her aims.

In theory Pacey's argument is valid because it demonstrates how she perceives her artworks and the effects of time upon them. Pacey's believes her opinion assists others in interpreting the work she has produced. In practice distinguishing between scratches that are caused by different methods is difficult to achieve. How would you differentiate between a scratch caused by wear and a scratch caused by poor storage on one artwork? Nor is it explicit what is more important to her, that her jewellery is worn or that it remains pristine in a museum. Contradictions are inherent in her argument. Possibly she would like both scenarios to co-exist. But which of Pacey's opinions is valid should her worn artwork be later placed in a museum collection? Perhaps interpretation of change to her work is only possible when the provenance of an object is recorded and the physical appearance accurately recorded at the point of entry to a museum collection. Pacey's jewellery piece held by the National Museums of Scotland collection, for example, was acquired soon after making, without being worn. It remains pristine, as Pacey wishes, and due to her clear stance regarding surface change, future scratches are now readily recorded as detrimental.

⁸⁸ Wendy-Sarah Pacey, personal interview, 1st March 2004.

⁸⁹ Wendy-Sarah Pacey, personal interview, 1st March 2004

⁹⁰ Wendy-Sarah Pacey, personal interview, 1st March 2004.

So far the artist jewellery discussed has been subject to surface change and this has been caused through contact from the human body. Wearing however, also causes structural change to jewellery and this is demonstrated in the example of *Grid Armpiece* (1981) by Caroline Broadhead (b. 1950). Moreover, it illustrates that when change exists, which could potentially be viewed in a positive or negative light, the artist's viewpoint can directly assist with treatment decision making. In this instance the change caused by the human body is seen as a detriment and is in contrast to Murphy, Strickland and Pacey. A square grid in form, the bangle comprises 12 nylon filament lengths woven across one another. The grid comprises uniformly sized holes of approximately 15mm² (see fig 93).

Middlesbrough Institute of Modern Art (mima) holds the artwork and in the years immediately after acquisition the bangle was tried on as part of the handling remit of the collection at the time. Consequently the grid comprising the bangle became stretched. A gaping hole developed in the centre where hands were pushed past the nylon filaments (see fig 94). Such change constitutes evidence of use and potentially be viewed as a positive addition, much in the way Murphy and Strickland interpreted surface change. In fact when consulted Broadhead commented this state was contradictory to her design since the distorted filaments eradicated ambiguity. Consequently her viewpoint directly influenced the decision to treat the bangle to reinstate the original intent. Treatment of *Grid Bangle* and the input of the artist is discussed in detail in chapter 6.

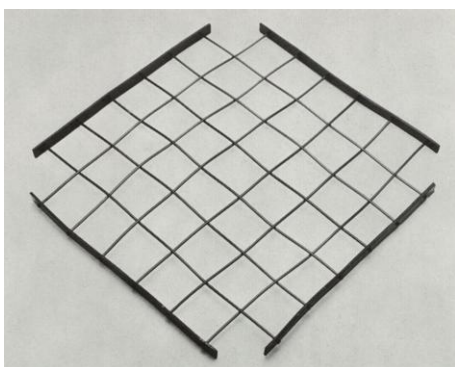


Fig 93. Caroline Broadhead, *Grid Armpiece*, 1981 (nylon, dye) artists' image dated 1981 showing original appearance



Fig 94. *Grid Armpiece*, condition in 2003 as seen in storage at mima, J0013

Change discussed by Murphy, Strickland, Pacey and Broadhead developed after their jewellery was created. Although their viewpoints differed as to the acceptable nature of the change the fact that the change was subsequent to

creation is a common theme. Some artists, however, use 'found' objects that have undergone change from their original appearance and structure before they are incorporated into jewellery. Such found objects are wielded as a powerful artistic tool for communication. The use of found objects adds complexity to the conservators' assessment of change to jewellery artworks because distinguishing between 'original' marks that frequently embody found objects and subsequent change is necessary. *American Collar*, 1996-1999, part of the *City Flotsam* series of necklaces by American jeweller Jan Yager (b.1951), is constructed from found and used nylon crack vials, crack vial caps, parts of syringes and strips of tyre rubber (see figs 95 & 96).⁹¹ The found objects were collected in the streets around Yager's studio in Philadelphia, USA and are poignant because they embody and express their past use within the area they were found. In Yager's words they are 'memory devices' that 'are undeniably identifiable to this time and place'.⁹² The necklace is in the form and a colour of a collar worn by the Masai people of Kenya yet is constructed from items found in present day USA society. Her geographical and historical references and use of drug paraphernalia make critical comment on the commerce which created the New World and the commodification of people both at that time, in the form of slavery, and the slavery to drugs in contemporary times. She implies continuing social inequality and struggle, because the descendants of slavery are still being caught within a cycle of poverty and drug addiction today.

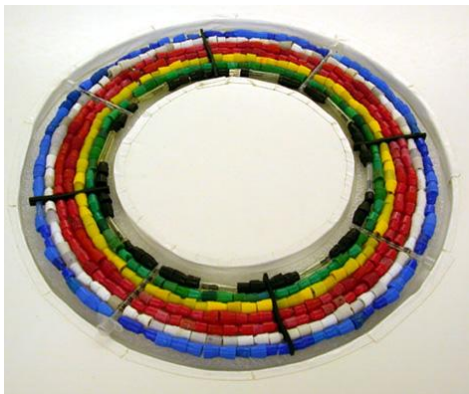


Fig 95. Jan Yager, *American Collar*, 1996-1999 (nylon, rubber) National Museum of Scotland



Fig 96. Jan Yager, *American Collar*, 1996-1999 (nylon, rubber) detail

⁹¹ Brown, Glen, 'Jan Yager Urban Stigmata,' *Ornament*, 23.2, Winter (1999)

Lyons, Nancy, 'An Interview with Jan Yager', *The American Society of Jewelry Historians Newsletter*, 21.2 September (1997)

Rosolowski, Tacey, 'Intervening in Amnesia: Jan Yager's Mnemonic Adornment,' *Metalsmith*, 21.1 Winter (2001)

⁹² Jan Yager, correspondence by email, 11th November 2003

The construction of the necklace holds the collective memory of past slaves and present slaves to drugs who used the contents of the vials. The presence of these unnamed individuals within the necklace is physical and permanent. Scuffs and scratches exist on all components where the vials have been used and discarded. Although such marks are not created from wearing on the body they are unquestionably significant change. Yager's work reviews the body critically and the scuffs are very much a result of human contact of many people, and literally, in a penetrating way. The content of the vials undeniably associates them with bodily functions. Yager realises that the poignant message the components communicate is so powerful she cannot envisage the necklace being worn. She explains 'My new work was no longer a conversation between myself and one wearer. Rather it was a conversation between myself and people on a larger scale, about larger issues, weightier issues, that all of us are affected by. In those terms the issues seemed too weighty to be worn/borne by an individual.'⁹³ Although Yager cannot envisage the necklace being worn it nevertheless retains the ability to be worn and was designed with the body in mind. Yet the fact that it is highly likely to remain unworn implies subsequent change from use is not intended to occur in the future. It is this information to which a conservator must pay greatest heed.

The necklace is an exceptional piece because although it exhibits scuff and evident change it is actually currently pristine. That is, it exists as the artist created and intended it to be. Any further change to the necklace either structural or to the surface and howsoever caused is unacceptable for Yager.⁹⁴ Although initial changes to the components before creation are attributes, further change to this object in the artist's opinion will be to its detriment. The most important issue is that that the viewer and conservator understand that the damage occurred before the piece was made. Without this knowledge, this piece could easily be interpreted as something that is scuffed and damaged because of neglect or through heavy wear, and the most important meaning of all is lost completely. Documenting the artist testament regarding the meaning and ongoing interpretation of the necklace is crucial. Unlike the previous examples, this is the one piece that is not intended for physical experience, but rather

⁹³ Jan Yager, correspondence by email, 11th November 2003

⁹⁴ Jan Yager, correspondence by email, 11th November 2003

mentally. Ironically as the components age change will inevitably occur such as discolouration of the plastic, and this will dilute the artist's message.

Yager is only one of several artist jewellers who apply found objects for jewellery. Jeweller, Mah Rana (b.1964) equally discovers expressive potential in such objects and elevates them from the ephemeral to the status of art. Rana's *Zodiac*, 2002 comprises twelve found objects and includes battered yellow and blue plastic strips, found during her everyday travels. Rana interprets these as receptacles of her memory of the moment she encountered them.⁹⁵ Their found status, whilst lacking the distressing poignancy of Yager's pieces, are no less evocative in their own context. Undeniably they possess visible change from their original appearance and the past life this implies, analogous to Yager's artistic expression. Similarly Norwegian jeweller Sigurd Bronger's *Portable Instrument*, 1998, incorporates a used rubber shoe heel, atop a meticulously engineered brass brooch setting (see fig 97). The shoe heel embodies both visible change to structure and surface appearance and this is an integral part of his original meaning. The heel is severely degraded, stiff and cracked and, together with the brooch setting, causes the viewer to question the nomination of such profane articles as art. Already worn-out, the heel is empowered to express the time spent on an individual's shoe and the functional underside of life is promoted and flaunted.

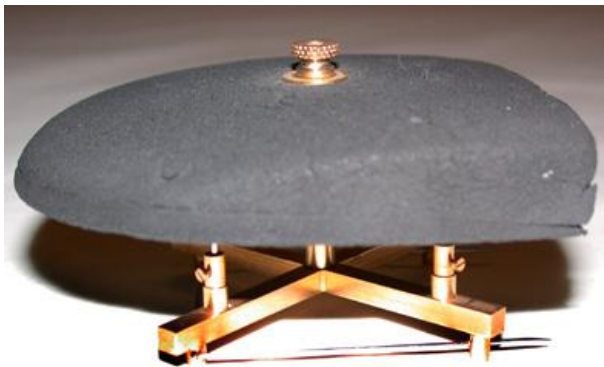


Fig 97. Sigurd Bronger, *Portable Instrument*, 1998 (rubber, brass, gold, steel) mima J0126

If artist jewellers have already discovered the capacity of plastics to express change particularly that from use, that embodies and enriches their artistic discourse, then the conservation profession ought to recognise the same. To acknowledge not only the presence of change on plastic jewellery but also

⁹⁵ Mah Rana, personal interview, 4th November 2004

whether its impact is positive or negative is essential for conservation decision making. Whether such change occurs before or after creation must also be documented. Acknowledging that change could be positive as well as negative equips the conservator with a sensitive mechanism and points of reference by which to examine surface characteristics and structural change to plastic artist jewellery. Whilst such assessments remain subjective taking into account artist opinion gives some idea whether the change is acceptable or not. Moreover, some complexities and contradictions inherent in such evaluations will always occur and exist for all types of objects where such value judgements are made. What is most important is plastic artist jewellery is considered by conservators in the same framework as other objects. At present they are overlooked. As Jackie Heuman, sculpture conservator at the Tate Gallery, contends 'experience and expectations of the audience will always be influenced by current trends', thus recognition and expression of change on plastics more generally by the conservation profession will support the historical appreciation of these more recent objects.⁹⁶ Raising the questions and documenting the debate surrounding the interpretation and impact of change to raise awareness is what is crucial.

⁹⁶ Heuman, Jackie, 'Introduction,' Material Matters, ed. Jackie Heuman. (London: Tate Gallery Publishing, 1999) 11

5.3 Wearability of Plastic Artist Jewellery and the Impact of its Loss

Jewellery is created for wearing and the ability to interact with the human form is a primary function. The body is recognised as the defining factor by artist jewellers and wearers alike and it provides a constant to which jewellery, in diverse forms, refers physically and, not uncommonly, conceptually. Conviction in the reciprocity between jewellery and the body prompted jeweller David Watkins (b. 1940) to decisively declare 'every element of its [jewellery's] thought and practice, however remote, is driven by that linkage.'⁹⁷ Other practitioners tenaciously reinforce Watkins' belief. 'I like the design challenge of making it wearable. I think the body provides the boundaries to work with' explains jeweller Sarah Lindsay (b.1979) whose PMMA work is carefully scaled to body parts.⁹⁸ Even the conceptual artist Mah Rana (b.1964) whose jewellery often defies conventional jewellery forms altogether asserts 'for me if it's not wearable it's not jewellery. It's about being worn on a person, that connection with another person.'⁹⁹ Not unusually, jewellery artists specifically employ sense of touch, to invoke responses and emotions when pieces are worn. Jeweller Lesley Strickland (b. 1955) realises, like others, that contact between jewellery and the body is site specific, albeit the same location on varying individuals. She reports 'I definitely design with the body in mind. When I design earrings I try them on all the time to see how they are sitting. Does it sit nicely on the wrist, does it sit well on the chest?'¹⁰⁰ When practical wearability is not immediately obvious as jeweller Peter Chang (b.1944) discovered with several of his outsized PMMA and UP bangles, its perceived role as jewellery may be reduced. Chang observes 'people sometimes reject them because people don't think they are easy to wear.'¹⁰¹

The ability for jewellery to be worn is undoubtedly a fundamental attribute. The following discussion analyses the impact on the interpretation of plastic jewellery artworks when, as a result of material degradation, their ability to be worn, is lost. Such loss of function is demonstrated as a recognisable milestone in the lifecycle of jewellery since it is no longer able to fulfil its intended purpose. As demonstrated in chapter 4, some collectors do expect to wear the jewellery they

⁹⁷ Watkins, David, *The Best in Contemporary Jewellery*. (London: Batsford Ltd, 1993) 182

⁹⁸ Sarah Lindsay, correspondence by email, 15th February 2006

⁹⁹ Mah Rana, personal interview, 4th November 2004

¹⁰⁰ Lesley Strickland, personal interview, 12th January 2004

¹⁰¹ Peter Chang, personal interview, 19th March 2004

acquire or have done in the past. The significant impact to an artwork that has lost wearability is obvious for collectors in this respect. Yet specific use or wearing is not the only salient point here. It was also clear in chapter 4 that several collections did not wish to wear the jewellery and that artist jewellers generally wish their artworks were preserved. The ability for jewellery to be worn remains important, therefore, whether it is worn or not, since this implies the original behavioural characteristics of the materials and the artworks remain. To emphasise the importance of function in jewellery to support artistic intent, in addition to the artworks' appearance, the case studies examined superficially seem unchanged despite the material degradation present. That is, on observation the jewellery appears unaltered but in fact has lost flexibility or other qualities that enable wearing. Despite this appearance of completeness, it will be established that the jewellery in this state can no longer be interpreted fully and accurately. In this section the change to the objects is argued as a detriment.

The plastic jewellery artworks, described below, that no longer have the ability to be worn, are constructed from several different materials and have diverse forms. All but one example once exploited the principles of flexibility and elasticity, providing movement as part of the intent, and it is these characteristics that are now lost through deterioration whilst their superficial facade of wholeness remains. Unsurprisingly, given its known rapid deterioration, rubber was the chief protagonist but also nylon and polypropylene had a notable presence.¹⁰² Deterioration in every case is largely attributed to environmental exposure of oxygen, light, pollution and unregulated relative humidity. Several examples of the artworks are summarised; their operation and how this is compromised is described whilst the images demonstrate their apparently still satisfactory condition.

¹⁰² Shashoua, Y., Thomsen, S. 'A field trial for the use of Ageless in the preservation of rubber in museum collections,' Saving the twentieth century: The conservation of modern materials. Proceedings of a conference symposium Ottawa, Canada, 15-20 September 1991, ed. D. Grattan. (Ottawa: Canadian Conservation Institute, 1993)

Loet Gescher (The Netherlands), *Combs*, 1989, (readymade rubber bands, nylon) Collection Marzee



Fig 98. Loet Gescher, *Combs*, 1989

Seven hair combs, created for the *Combs* exhibition at Galerie Marzee, 1989, comprise colourless nylon prongs 70mm long with their upper halves secured together with coloured readymade vulcanised rubber bands woven between them (see fig 98).¹⁰³ The rubber originally allowed the combs to bend along their width (50mm) to conform to the shape of the head and accommodate the bulk of hair by stretching slightly. Now the rubber is deteriorated, becoming stiff and brittle, and such flexing no longer possible. The combs are still complete, however, and outwardly appear unchanged. Yet three of the combs are permanently fixed in a curled state in which they have been stored. Unrolling them would risk fracturing the rubber and the combs' structure breaking up. The remaining four remain flat but are rigid. Any flexing, as their function intends, would also risk breaking the rubber.

¹⁰³ Examined on 1st December 2006

Otto Künzli (b. 1948, Germany), *Elastic brooches with wearing suggestions*, 1980 (vulcanised rubber, stainless steel), mima J0107/ J0109/ J0111¹⁰⁴



Fig 99. Otto Künzli, *Elastic brooches with wearing suggestions*, 1980

Two of the three brooches consist of long lengths of vulcanised rubber with metal hooks attached at each end (see fig 99). The third is a circle of rubber with two moveable metal hooks attached to the circumference that are intended to be positioned where the wearer chooses. When worn the hooks are fastened to clothing, stretching the rubber across the torso. There is no prescribed wearing position for any of the brooches. Instead the wearer is left to add their personal interpretation on their body. Suggestions for wearing are provided by the artist in the original packaging.

The rubber has deteriorated, losing its elasticity; any force placed on the brooches would rupture the now brittle material. Presently the brooches can only lie limp but still appear complete and useable. Importantly, however, they can no longer delineate the human form. The wearing function and intent of the work are therefore lost simultaneously.

¹⁰⁴ Examined on 10th March 2003, 1st February 2006

Arthur de Rijk (The Netherlands), *Armpieces*, 1981 (elastomeric filament(?), polyester fibre, stainless steel) mima J0020



Fig 100. Arthur de Rijk, *Armpieces*, 1981

The four bracelets are created from 20mm wide strips of elastomeric filament encased by black or white textile fibre with the ends secured by a folded stainless steel strip (see fig 100).¹⁰⁵ The size suggests they stretch over the hand and are snug around the wrist. As the elastomeric filament has lost its elasticity over time, so have the bracelets. The extended length of one (second from right in fig 100) suggests it was either worn or stretched when this stage was reached; the extended and degraded filament did not retract after apparent stretching. Yet the bracelets appear as they always have. Presumably no warning that they can no longer function was encountered before one was inadvertently stretched.

¹⁰⁵ Examined on 10th March 2003, 1st February 2006 The elastomeric filament is most probably polyether segmented polyurethane, but as sampling for materials analysis was not appropriate it remains undetermined.

Hatch, K. Textile Science, (St Paul. MN: West Publishing Company, 1993) 244

Hans Appenzeller (b.1949, The Netherlands), *Bangle*, 1972, (vulcanised rubber, aluminium) mima J0097 & Derrez-Hoogstede Collection



Fig 101. Hans Appenzeller, *Bangle*, 1972

The bangle is constructed from a circular section of aluminium tube strung with a continuous length of white rubber with a 5mm wide square cross-section (see fig 101).¹⁰⁶ The rubber forms a rectangle within the circumference of the outer ring and the wearer inserts their hand through it necessarily causing it to stretch and succumb to the curvature of the body. The aluminium is as yet unaffected by change, but the rubber, despite its sound appearance, is now rigid and unable to flex any longer. As a result it can no longer behave as intended. The example shown is held by mima, and Derrez-Hoogstede Collection holds a similar example but with black rubber, and which still has a little flexibility.

¹⁰⁶ Examined on 10th March 2003, 1st February 2006 at mima, 13th November 2006 at Derrez-Hoogstede Collection

David Watkins (b. 1940, UK), *Landline 124*, 1982, (steel wire, Neoprene®) (a synthetic rubber and a polymer of chloroprene), mima J0037¹⁰⁷

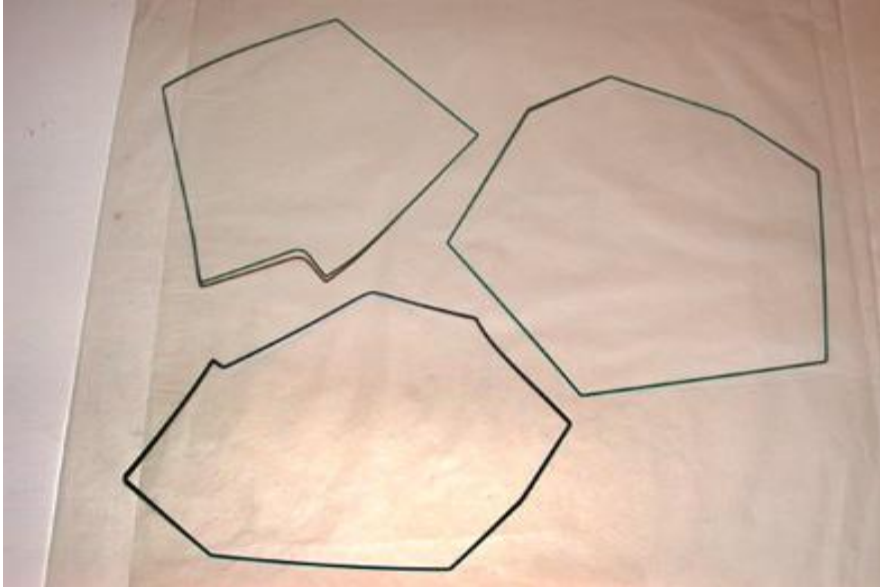


Fig 102. David Watkins, *Landline 124*, 1982

The necklace comprises three separate angular rings that are designed for wearing together in contact with each other but with no prescribed arrangement (see fig 102). The wearer chooses how to arrange them on the body. Each ring comprises rigid steel wire, spray-coated with Neoprene synthetic rubber applied over a cream coloured painted priming layer.¹⁰⁸ The Neoprene imparts soft suede like texture and colour. Now, however, the surface is tacky due to deterioration, with particulate soiling stuck to it. The Neoprene coating is also delaminating where it has been abraded from handling, and areas of loss are apparent (see fig 103). From a distance the rings appear sound because their shape and overall colours remain but, allowing the separate rings to touch now risks losing more of the essential Neoprene coating. As a result they are kept isolated from one other in storage. The artistic intent of varying composition achieved through arranging the three rings together and altering their configuration, as desired, is now lost.

¹⁰⁷ Examined on 10th March 2003, 1st February 2006

¹⁰⁸ David Watkins, personal interview, 18th July 2006

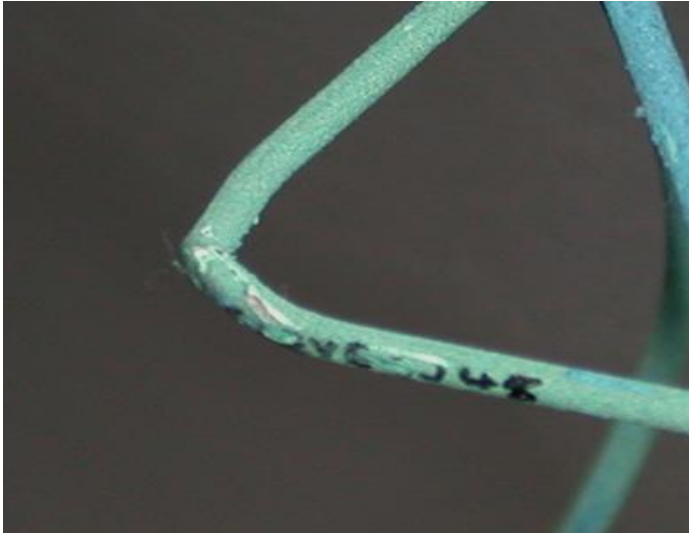


Fig 103. David Watkins, *Landline 124*, 1982 detail

Emmy van Leersum (1930-1984, The Netherlands), *Series: Broken lines, primary colours ear jewellery, 1982-4, (nylon, dye) mima J0004*

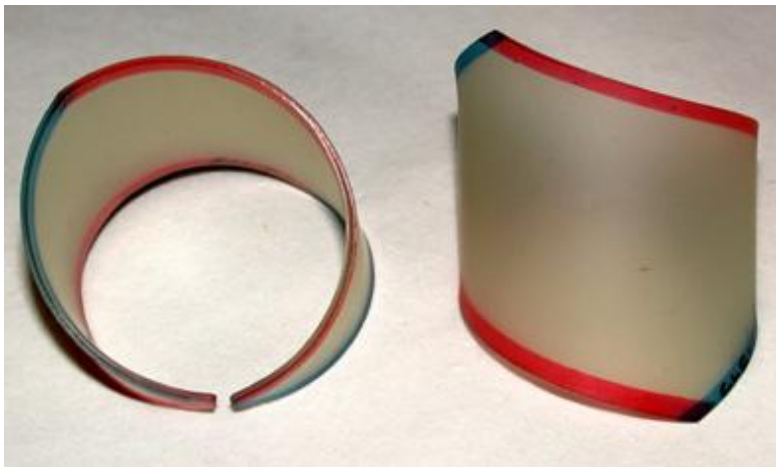


Fig 104. Emmy van Leersum, *Series: Broken lines, primary colours ear jewellery, 1982-4*

The earrings are composed of a diamond shape cut from a sheet of colourless translucent nylon (see fig 104). Alternate lines of blue and red paint follow the edges of the earrings. The shape is created by curling the diamond shapes, presumably by heat, into a circular form with the two sharpest points meeting.¹⁰⁹ Each earring grasps the lobe and the structural tension afforded by the flexibility holds them in place. They are designed to be flexed open to position them on the ear lobe and then similarly released.

¹⁰⁹ Examined on 10th March 2003, 1st February 2006

Now, as the nylon has stiffened the structure has become quite rigid. An attempt to flex them open would risk snapping the earrings despite the fact they appear largely unchanged structurally. Visible yellowing does, however, suggest a degree of deterioration in the nylon. A similar pair of bangles by van Leersum also reside in the mima collection and exhibit similar change.

Nora Fok (b.1953, Hong Kong/ UK), *Bangle*, 1986, (nylon) National Museum of Scotland

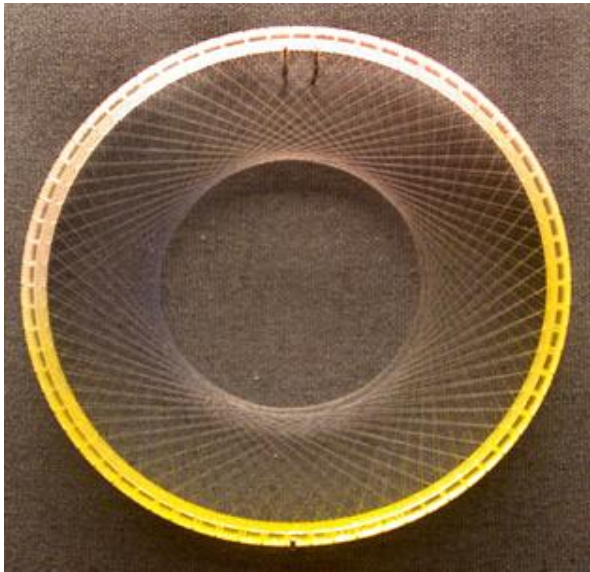


Fig 105. Nora Fok *Bangle*, 1986

The bangle comprises a rigid circular ring of nylon cut from a tube that is partially dyed yellow (see fig 105). It has a continuous length of fine nylon filament (less than 0.5 mm diameter) strung across grooves cut into the ring.¹¹⁰ The filament creates a criss-cross geometric construction to form a smaller circle inside the outer ring. The wearer has to stretch the nylon filament to insert their hand and place it on their arm, whereby the nylon filament contracts once more, fitting the arm closely and holding it in place.

Over time and as a result of exposure to visible light and UV radiation the nylon filament has become brittle and rigid but is still in place. Any attempts to stretch the nylon filament in order to discover its behaviour would, in all probability, break it.

¹¹⁰ Examined on 6th May 2003

Franz van Nieuwenborg (b. 1941, The Netherlands), *Armpiece*, c.1979 - 1983, (polypropylene) Derrez-Hoogstede Collection¹¹¹

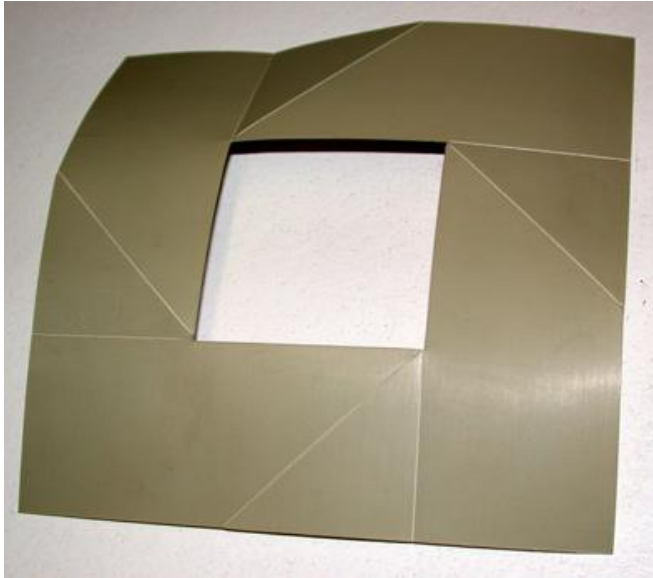


Fig 106. Franz van Nieuwenborg *Armpiece*, c.1979 - 1983

Cut from a sheet of beige coloured polypropylene the bracelet exploits the 'dead fold' capabilities of the material (see fig 106). This means that when folded, similar to paper, polypropylene will retain the memory and fold in the same position each time. The bracelet is designed to exist in two states, flat and folded. Flat it reveals its square outline with a central hole for the arm and folded it forms a zigzag three-dimensional shape. The wearer can opt for either appearance. Now, however, with time the polypropylene has lost some of its malleability, exhibits cracks along the fold lines and must remain permanently flat to prevent further damage. Repeated folding now risks greater fractures along the fold lines. The bangle has lost a significant proportion of its artistic intent.

¹¹¹ Examined on 13th November 2006

Marga Staartjes (b.1953, The Netherlands), *Pan Scourer bracelets*, 1978, (polypropylene) mima J0114-0119 & Derrez-Hoogstede Collection



Fig 107. Marga Staartjes *Pan Scourer bracelets*, 1978

The ready made pan scourers are manufactured from long strips of polypropylene approximately 1mm wide knitted into long tubes that are rolled up into balls (see fig 107).¹¹² Staartjes fashioned them into ring doughnut shaped bracelets. Whilst polypropylene is not particularly flexible as a material, since it is crystalline by nature, in long strips it attains suppleness. Within these bracelets the pliancy is amplified and enhanced through knitting; a construction technique that offers stretch and elasticity.¹¹³ Today the polypropylene has deteriorated and the bracelets are completely rigid, having lost its original stretch and elasticity. Despite the knitted construction technique the bracelets have no stretch. Comparison with a newly purchased similar pan scourers, which have considerable flexibility, suggests a significant loss of the original behavioural characteristics of the bracelets (see fig 108). Moreover, the knitted structure has seemingly constricted and an arm will no longer fit the size of the bangles. The circular doughnut shape clearly remains. Without flexibility the irony and critique regarding more conventional precious materials, that a cheap item can function effectively as jewellery, is misplaced. Five examples exist at mima and approximately four in the Derrez-Hoogstede Collection, and all exhibit a similar condition.

¹¹² Examined on 10th March 2003, 1st February 2006 at mima, 13th November 2006 at Derrez-Hoogstede Collection. Materials analysis undertaken on a mima example via FTIR by Dr Paul Garside, Research Fellow, Textile Conservation Centre, University of Southampton, 10th February 2006.

¹¹³ Brent Strong, A. *Plastics Materials and Processing*, (London: Prentice Hall, 2000)

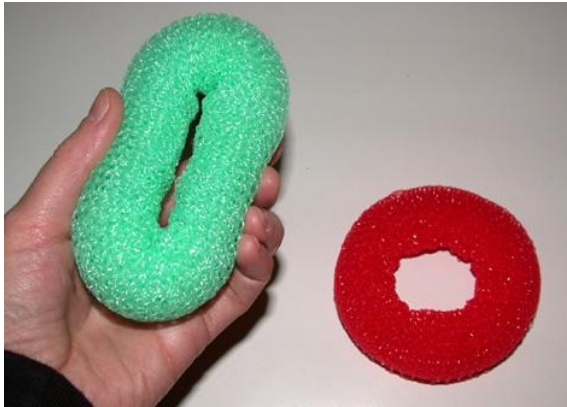


Fig 108. Newly purchased pan scourers similar to Staartjes, *Pan Scourer bracelets*, illustrating their highly flexible nature

The ability to be worn provides insight into the workings of the jewellery artworks, and an artist's mind. In every case described above, deterioration of the plastic material has reduced this possibility. At the point of making, the plastic materials enabled the artists to exploit and apply flexibility and stretch in a way that is less possible with conventional jewellery making materials. In metals, for example, movement is often induced by mechanical means. Now deterioration of the plastics limits the experiences they once promoted. Naturally in the case of the Gescher *Comb* in Collection Marzee, where pieces are worn on occasion, the loss of function and hence implication for the collection is overt, but the same is true for all. With jewellery defined by the practitioners themselves as wearable art, practicality of function cannot be artificially isolated from artistic intent. Despite maintaining a superficially complete appearance these artworks are severely hindered because wearability is inextricably blended as intent.

Künzli's *Brooches with Wearing Suggestions* are not only unable to be stretched to delineate the body, but can barely be moved at all without endangering the now fragile rubber. Viewing the brooches in the now necessary flat, supported and unstretched state does little to reveal Künzli's subversive notion to challenge more typical brooches, often a torpid jewellery form. Equally Watkin's *Landline 124*, now that the three elements are isolated to prevent further change to their Neoprene coating, appear insubstantial rather than an idiosyncratic group when placed on top of one another. In this case, the whole is greater than the sum of its parts. Similarly, only half of the intended experience is now interpreted in van Nieuwenborg's *Armpiece* because the folded option is no longer available.

Failing to recognise the point where jewellery has deteriorated beyond wearing, can have disastrous consequences. Possibly the unknown and unrecorded culprit who damaged de Rijk's *Armpiece* sought a deeper encounter with the jewellery, feeling rather than imagining the stretch of the elasticised construction.¹¹⁴

The works by Appenzeller and van Leersum, in the mima collection, described above, reveal that the change in behaviour of the objects was at first overlooked. In these cases the original behavioural characteristics of the material was unknown and unrecorded. The extent of loss of original qualities was, therefore, not fully appreciated by me during examination in either artist's work until less deteriorated examples were encountered, in the Derrez-Hoogstede Collection. The rigid nature of the nylon in van Leersum's *Earrings*, for example, appeared a probable original intention, until further examples demonstrated otherwise. Only then was the function of the flexing nylon sheet evident and its role - to enable placing and holding the earrings in position - was realised by me as part of this research. The initial responsiveness to touch of Fok's bangle, which is not a multiple, remains elusive and can only be imagined. Now missing crucial chapters in the stories they were designed to tell, the deteriorated jewellery exemplifies that the act of touching and potentially wearable interaction is necessary for full comprehension, even if this is infrequent in a museum or collection.

Functioning Objects in Museums

So important is interaction of jewellery with the body, that some jewellers and curators question the conventional role of museums and collections. Conceptual jeweller Christoph Zellweger (b.1962) registers the idea that jewellery works could be owned by museums but worn by nominated individuals in everyday life. Zellweger is ambivalent about the role of museums lest the ability of jewellery to be worn is squandered.¹¹⁵ Unrealistic though his idea may be, Zellweger's frustration emphasises the body as a missing link in museums and hence deteriorated, unwearable, jewellery can only be further detached. Mima's original policy that allowed handling and wearing of the jewellery, and Collection Marzee's continued wearing of pieces, as discussed in chapter 4, accentuate that

¹¹⁴ James Beighton, personal discussion, 1st February 2006

¹¹⁵ Christoph Zellweger, personal interview, 9th November 2003

wearing of jewellery in collections is appealing and in some respects is advantageous in order to gain maximum information from the artworks. Elizabeth Goring, Curator of Contemporary Jewellery, National Museums of Scotland shares a similar viewpoint regarding wearability. She regards the collection in her care, pinned to fabric covered boards, as 'pathetic objects' in recognition of their necessarily restricted function in this setting.¹¹⁶ When curating the 1998 exhibition *Jewellery Moves* with Amanda Game, a Director of The Scottish Gallery, Goring introduced every way she could, to replicate the wearing capacity of the exhibits.¹¹⁷ Articles were hung at the relevant heights for their place on the body and music was composed and played that invoked noise jewellery can generate when worn. Inevitably what was missing, and that would render these efforts redundant, was the simple act of wearing itself.

Undoubtedly wearability is recognised by jewellers and some curators as indispensable for fully appreciating jewellery. These professionals believe that maintaining function and enabling display leads to greater understanding of the jewellery. Yet jewellery is but one of a range of functioning artefacts coerced into the artificiality of a museum collection. For decades, cyclical debates have raged over the fate of functioning objects in museums such as historic vehicles, books and musical instruments, where similar questions of the relative values of form and function are raised.¹¹⁸ Should such items be preserved so that their function is still in-tact or should their static appearance be sufficient? Does or can maintaining functionality on display lead to greater understanding of the objects? Museums studies lecturer, Gaynor Kavanagh, and Collections Management lecturer, Susanne Keene, consider that the functional use of museum objects actually 'fetishises' them which they consider inappropriate, and so are against

¹¹⁶ Elizabeth Goring, personal discussion, 6th May 2003

¹¹⁷ Elizabeth Goring, personal discussion, 6th May 2003

Game, A. & Goring, E. *Jewellery Moves*, (Edinburgh: NMS Publishing, 1998)

¹¹⁸ Mann, P. 'The Restoration for Vehicles for Use in Research, Exhibition and Demonstration,' *Restoration is it Acceptable?* W. A. Oddy ed. British Museum Occasional Paper 99. (London: British Museum, 1994) 131-8

Newey, H. & Meehan, P. The Conservation of an 1895 Panhard et Lavassor and a 1922 prototype Austin Seven motor car: new approaches in the preservation of vehicles,' *The Conservator* 23 (1991): 11-21

Rogerson, Cordelia, 'Understanding the Full Story: Acknowledging Intimate Interactions of Textiles and Text as both Help and Hindrance for Preservation,' *Textile and Text: Re-establishing the Links between Archival and Object based Research*, eds. E. Kramer & M. Hayward. (London: Archetype Publications, 2007) 217

such practices.¹¹⁹ Fetishism in material culture is variously framed in religious, criminal and sexual terms and the effect is to produce an irrational devotion of an object or objects so that it accrues reverence or a special social significance over others.¹²⁰ Neither Kavanagh nor Keene are able to define under what terms the acute condition of fetishism will occur. If objects are used, however, presumably they consider that, for example, playing an instrument or driving a car, will over emphasise that piece as an object potentially beyond its historical significance and over and above other examples. On the other hand, book conservator Edward Cheese recently levelled personal criticism at the idea of not maintaining the function of objects because he felt that it negates what book conservators fundamentally set out to do: stabilise books so that they can be used.¹²¹ Both are viewpoints at opposite ends of a spectrum and can be interpreted as somewhat intransigent. Kavanagh and Keene appear to refute that an object may be better interpreted if it is used as intended. Cheese's remarks, meanwhile, can be read as equally intractable because he sees books only as a functioning object and does not acknowledge that preserving a particularly rare bookbinding could potentially take precedence over reading a text block.

In practice a range of options regarding the use of objects is evident and is dependent upon circumstances and individual judgement. Professional guidelines for conservators, by default, reinforce that differing circumstances for diverse objects may arise and be appropriate, but only through offering little clarity on the debate of whether objects should be used in a functional sense or not. ECCO [European Confederation of Conservator-Restorers Organisations] guidelines, the European mantra for conservation codes of conduct, state that a conservator does not maintain or repair objects in a functional sense.¹²² Yet the same

¹¹⁹ Keene, Susanne, *Fragments of the World, Uses of Museum Collections*, (Oxford: Elsevier Butterworth Heinemann, 2005) 34

Kavanagh, Gaynor, *Dream Spaces: Memory and the Museum*, (Leicester: Leicester University Press, 2000) 22

¹²⁰ Gamman, L. & Makinen, M. *Female Fetishism: A New Look*, (London: Laurence & Wishart, 1994) 39

Nye, R. A. 'The Medical Origins of Sexual Fetishism,' *Fetishism as Cultural Discourse*, eds. E. Apter & W. Pietz (Ithaca, NY: Cornell University Press, 1993) 21

¹²¹ Cheese, Edward, 'A Compromising Profession? Professional "Ethics" and Contemporary Conservation,' *ICON News* 7 (2006): 56

¹²² ECCO. *ECCO Professional Guidelines*, 2002. Available online <http://www.icon.org.uk> Accessed 4th July 2006

guidelines acknowledge that for some objects their 'social use' may be preserved as an important element of that cultural heritage. The phrase 'social use' is not at all defined within the guidelines and is presumably deliberately left open to interpretation. Conceivably in certain circumstances maintaining and demonstrating the functional use of an object is necessary to preserve its social use. Thus in reality these guidelines are ambiguous and even contradictory since if a functioning object is required for its 'social use' but is not maintained as such, surely this is failing to preserve it adequately to fulfil its future role. A professional code, by nature, necessarily draws together common practices that encompass an almost infinite number of variations of objects and circumstances and is potentially problematic as a result. Past Chairman of the International Institute for Conservation (IIC) Andrew Oddy has levelled criticism at general conservation codes of practice. He stated, 'numerous attempts have been made to codify these rules but all are doomed to failure because the approach to conservation can never be generalised.'¹²³

Even allowing for interpretation and adaptation of guidelines as advocated by conservator Salvador Munos Vinas, as the contemporary means to reconcile such undefined suggestions found in current professional guidelines, a crucial element that is overlooked by the ECCO guidelines is that the function of an object is part of its original intention.¹²⁴ Loss of function is to mislay a fundamental element of an object. To intellectually reduce a functioning piece of jewellery to its superficial appearance is to neglect a significant component of its intent, and means for appreciation, as well as directly contradicting the voices of some other stakeholders. The debates regarding the use of musical instruments, in particular, provide a constructive analogy to apprehend and reinforce the importance of the wearing function and its loss as noted in plastic jewellery. Musical instruments and jewellery are decorative but also operational objects, hence function and appearance are simultaneously important in each.

¹²³ Oddy Andrew ed. *The Art of the Conservator*, (Washington DC: Smithsonian Institution Press, 1992)

¹²⁴ Muñoz Viñas, Salvador, *Contemporary Theory of Conservation*, (Saint Louis, MO: Butterworth Heinemann, 2004)

In his groundbreaking article on the subject, Cary Karp, Assistant Curator at the Museum of Musical History in Stockholm presents two extremes.¹²⁵ On one hand instruments are useless unless they are played. Conversely, 'usability in performance is an entirely secondary consideration' to the form of the instrument because in use an instrument will undergo stress that may cause damage and lose original evidence it holds. Similarly, as Zellweger so vehemently believes, jewellery could be considered useful only when worn. At the opposite end, it could be argued that jewellery only needs to be looked at in collections because this is the prevalent current practice anyway, as Goring demonstrated, and is evident from other jewellery galleries at, for example, Shipley Art Gallery, Gateshead and Victoria & Albert Museum, London. Here only the visual integrity is important, which may be retained even when the ability to be worn is missing, the function of wearing in this instance is unimportant. What Karp concludes, however, is that both the use of musical instruments and the material evidence they hold are important and, as far as possible, they must both be upheld. The musical function should not be seen as an end in itself but rather a step towards an aggregate understanding of music. The materiality of the instrument and the music it supports cannot be seen as separate entities as they constitute two halves of the artefact. When appropriate, performance of musical instruments should be considered because respect for the acoustical function must be borne in mind. Watson, who entered the debate on musical instruments in 1991, largely concurs with Karp's view.¹²⁶ Watson realises though that it is not always possible to maintain the coequal nature of both sides of the argument. Preserving the material of the instrument may prevail if the physical integrity is in danger during playing. But suffice to say he too understands that two integrated features of musical instruments exist. In response to these viewpoints, The Museums and Galleries Commission now offer practical directions for achieving the balance of playing and maintaining the material components of an instrument.¹²⁷

Similar inferences exist for plastic artist jewellery. Both the materials and the function, enabled by the (flexible plastic) materials, contribute to the object

¹²⁵ Karp, Cary, 'Restoration, Conservation, Repair and Maintenance: Some Considerations on the Care of Musical Instruments,' *Early Music*, 7 1 January (1979): 79-84

¹²⁶ Watson, J. R. 'Historical Musical Instruments: A Claim to Use and Obligation to Preserve,' *Journal of the American Musical Instrument Society*, XVII (1991): 69-82

making it a whole. In a museum and some scholarly collections it is unrealistic to expect a jewellery item to be worn, as Zellweger wishes. At the same time, not acknowledging the wearing function of jewellery is a drastic oversight. Either extremity of the theoretical argument that Karp and Watson present is thus inappropriate for jewellery in museum collections. Instead a balanced view that acknowledges the fundamental and important position of the ability to be worn and permits study and some handling is apposite. Moreover, as Watson astutely observes, the function of an artefact cannot be upheld indefinitely due to inevitable deterioration. When jewellery has degraded and lost its ability to be worn, but still remains visually intact, it has inevitably lost some of its complexity and original information. Exploration of the wearing function through handling is inappropriate when this stage is reached, as damage may well occur, as de Rijk's *Armpieces* illustrate. Stretching the nylon filament in Fok's *Bangle* and flexing Gescher's *Combs* would now also be dangerous pursuits. At times therefore, form will unfortunately triumph over function. Recognition of the fact, however, remains important, as testimony to the stage at which the jewellery has reached in its life cycle, even if little can be done to rectify the situation.

Despite the ever-present danger of damage to artefacts being used, strong arguments exist to allow a use of instruments in collections where condition allows. The rationale for this is the enhanced learning experience, enabled by function. Jeremy Montagu, curator of the Bate Collection of Historical Instruments in Oxford, believes strongly that the objects in his care are a 'resource' and should serve a useful function, including playing.¹²⁸ The formal mission for the collection is to be 'made available for study and judicious use by scholars, students, makers, and players, so as to enhance and increase the knowledge of the history of music as well as the enjoyment of historic performance for all.'¹²⁹ Naturally the term 'judicious' is open to interpretation and will necessitate judgement in individual cases; however, Montagu believes that learning through playing is key. Hearing the original is crucial for those creating replicas, interpreting written scores and recordings.

¹²⁷ Museums & Galleries Commission, *Standards in the Care of Musical Instruments*, (London: Museums & Galleries Commission, 1995)

¹²⁸ Montagu, Jeremy, *The Availability of Instruments in Museums*, Ed. Leo S. (Olschki, Firenze, 1987) 369

¹²⁹ The Bate Museum website available at <http://www.bate.ox.ac.uk/> accessed 18th September 2006

Montagu's judgement is echoed in the jewellery discipline. Artists' recognition of the tactility of jewellery cited at the beginning of this discussion, alongside the author's independent discovery during research, reveal that jewellery cannot communicate fully without its wearing function being in-tact. In practice wearing of jewellery in museum collections is unlikely to occur, however. Handling, assuming that wearing was not yet precluded, is an alternative and will demonstrate the nuances, mechanisms and subtleties of designs and working properties as far as practicable. Handling rather than wearing, in many circumstances, remains a compromise nevertheless and unavoidably Zellweger and Goring's frustrations are likely to remain to a degree. Any decisions as to who gets to handle objects are, of course, another matter of debate within individual institutions.

Even so, what forms the principal feature of this discussion is the importance of the wearable function of jewellery is understood and acknowledged, and certainly its loss recognised. If plastic jewellery loses its ability to be worn over time the most probable outcome is that it remains so. Hence, it is important that debate is raised. The act of preserving should ideally simultaneously support and enable a study of objects not disallow it, as Karp, Watson and Montagu realised. Furthermore, recognising and enabling a study of the wearability of plastic jewellery is an act of preservation in itself, much as acknowledging the loss of wearability is to understand its communicative limitations and degradation pathway.

Wearability is undoubtedly a principal characteristic for artist jewellery but during its life cycle a plastic jewellery artwork will undergo material degradation and its ability to be worn may diminish. Moreover, plastic materials in jewellery may lose some physical properties whilst concurrently retaining a superficial appearance of completeness. The examples where this has occurred demonstrates that the outward appearance of plastic jewellery alone is, in fact, insufficient to completely understand its intent. Recognising that such deterioration reduces its appreciation emphasises the mutual dependence of the form or structure of jewellery with its intended wearing function, to support intent. The same is true whether the plastic jewellery resides in a public or private collection, and regardless of whether it is worn. It would be duplicitous to deny that wearability of jewellery in museums and collections is unimportant since this is what defines both the artworks and role of the artist jewellers.

Viewpoints that reject the significance of function of objects such as those declared by Kavanagh and Keene, are inappropriate. Losing the ability to be worn is a recognisable milestone of deterioration in the life cycle of plastic jewellery.

Change to historic artefacts is a given and inevitably has also occurred to plastic artist jewellery. Throughout this chapter the impact of change, from a variety of forms and causes, on the interpretation of jewellery is evaluated. Some of the artworks discussed are some of the oldest pieces of plastic artist jewellery examined during the research. Other pieces are very recent and were created within the 21st century. Age of the artworks is not the most significant factor when change occurs to jewellery artworks however. The properties of plastic materials and their application as individual jewellery artworks are far more important. The nature of jewellery as an artwork for the body also has a huge bearing on the impact of change.

Whilst looking toward jewellery and its function provides vital points of reference for discussion reaching beyond the jewellery discipline is also essential. Comparing jewellery with other functional items enabled constructive analogies for comparison and debate. Furthermore, it is questioned why plastic artefacts are not considered in similar frameworks to other artefacts. As a matter of course objects created from, for example, metal, stone, textile undergo value judgements when change is evaluated. Plastic objects, other than Fine Art and sculpture, still tend to be viewed as molecular structures that degrade. As demonstrated plastic artist jewellery is much more than this.

Chapter 6

Artist Input – To what extent should an Artist Intervene with their Art when Treatment is Proposed?

Artist testimony is an increasingly familiar tactic employed within the heritage sector to enhance the interpretation and preservation of artworks by living artists.¹ Artist testimony creates documents that comment on materials and methods of construction, artistic intent, and the artists' position, should their work change over time. So far in this thesis artist input has been advocated and demonstrated as a positive contribution to determine the application of materials, meanings of objects, attitudes toward their preservation and how changes brought about by damage and deterioration may be interpreted and recognised. Quite deliberately, the process of testimony has been used to encourage artists to exert influence over their artworks held in collections. When conducting interviews with artist jewellers during this research, however, it became apparent that many of these artists expect to remake and mend their damaged or deteriorated work created from plastic, and have done so previously. Moreover, they envisaged continuing to do so in the future, believing that their input is appropriate to ensure the jewellery maintains their intent. Precedents exist for Fine Artists remaking and installing their artworks within museums and gallery settings.² This is normally undertaken as a collaborative project with the custodians and conservation professionals. Of the jewellery artists consulted during this research all that commented envisaged their practical input to be their responsibility alone.

¹ 'Guide to Good Practice: Artists' Interviews. International Network for the Conservation of Contemporary Art,' <http://www.incca.org/> accessed 20th November 2002

'The Decision-Making Model for the Conservation and Restoration of Modern and Contemporary Art, Foundation for the Conservation of Modern Art/ Netherlands Institute for Cultural Heritage,' 1999, <http://www.incca.org/> accessed 20th November 2002

Hummelen, Y. Menke, N. Petovic, D. Sillé, D. Scholte, T. 'Towards a Method for Artists' Interviews Related to Conservation Problems of Modern and Contemporary Art', Preprints of the ICOM-CC 12th Triennial Meeting, Lyon, France 29 Aug 3 Sept 1999, (London: James & James Ltd, 1999) 312-317

² Heuman, Jackie, '*OTTOshaft* 1992,' Material Matters The Conservation of Modern Sculpture. ed. Jackie Heuman, (London: Tate Gallery Publishing, 1999) 90-99

In this penultimate chapter I propose that artist intervention for plastic jewellery is appropriate in a collaborative sense with the conservator and curator. Furthermore, the practical process of intervention is best placed in the hands of a conservator rather than the artist. Artist input is crucial, but should be applied as a tool and permanent document to enable decision making and collaborative working. Practical intervention by the artists, when treatment is proposed for their artworks, is less appropriate. The issue is more poignant when the fact that many artist jewellers undertake repair on items as a matter of course for their clients and this is an existing expectation for them within their artistic practice.

Two contrasting interventions on plastic jewellery artefacts held in the International Contemporary Jewellery Collection at Middlesbrough Institute of Modern Art (mima) are analysed to illustrate the argument. *Spondylitis* (2003) by Adam Paxon (b.1972) which was problematically remade by the artist when treatment became necessary. *Grid Armpiece* (1981) by Caroline Broadhead (b. 1950), on the other hand, was successfully treated by a conservator (the author) to recover the original artistic intent. The outcome of treatment for each jewellery artwork differed considerably because the fundamental goals, priorities and perspectives of the conservator, curator and artist also differ and are at odds. Since there were differences between the dates of the objects in question, and the speed the damage occurred, the objects were perceived as having different needs. Yet as will be demonstrated this is not actually the case. Moreover, the curator's appreciation of conservation principles was crucial in determining the outcomes. Using the case histories I demonstrate that an artist's involvement in the conservation process is a benefit, but qualifying and setting parameters as to the extent of their influence is crucial. Whilst collaboration between the artist, curator and conservator is demonstrated as a key part of the treatment process, the most powerful message is that any collaboration must aim to develop treatments within the bounds of conservation principles. Finally, as few published precedents exist for interventive conservation work on plastic artefacts, on jewellery items and fewer still for plastic artist jewellery, the case studies serve to encourage pioneering treatment strategies for artist jewellery and within the modern materials discipline more generally.³

³ Basta Eichberg, Ricardo, 'The Restoration of Antique and Period Jewelry,' Proceedings of the 14th Santa Fe Symposium on Jewellery Manufacturing Technology, 2000, 60

6.1 Artist Jewellers Intervening With Their Work

The general concepts of preservation and conservation did not feature as a point of reference for the majority of artists interviewed during the research because very few had any experience or knowledge of such activity. Kathy Murphy (b.1966) suggested she 'would try and restore' pieces that were damaged or deteriorated and regularly repairs work returned to her.⁴ Conceptual artist Mah Rana (b.1964) meanwhile simply stated 'I would take it apart and remake it' when questioned about potential degradation of her pieces.⁵ Julia Manheim (b.1949) identified a potential drawback of a conservator treating her work, reflecting 'I think I would notice and I think it would look a bit odd because it wasn't me that did it. In that case the artist should be consulted and they can say I don't want anything to do with it or I will repair it for you.'⁶ Perhaps unsurprisingly the artists sensed they have privileges over the alteration of their works. None of the jewellers questioned, however, considered that they would alter their jewellery to its detriment or in opposition to the objectives of the owning collection.

Some curators and collectors involved with contemporary jewellery also have limited experience of the conservation profession and tend to turn to creating jewellers rather than conservators to address problems that occur. Paul Derrez (b.1950), artist jeweller, collector and proprietor of Galerie Ra, Amsterdam, explains that he keeps one drawer in the gallery for customer orders and another for customer repairs. He explains, 'If I can, I will undertake the repairs myself, if not, I will send them back to the jeweller.'⁷ Derrez freely admitted he was totally unfamiliar with principles of conservation. Moreover, he works closely with the jewellery collections, having supplied Marjan Boot, Curator of Applied Arts and Design at the Stedelijk Museum, Amsterdam with around 130 jewellery pieces since 1975 and, in 2006, being employed by mima to value pieces in their collection.⁸ Monetary value, he asserts, is connected with

Munn, Geoffrey G. *Castellani and Giuliano Revivalist Jewellers of the Nineteenth Century*, (London: Trefoil Books, 1984)

Personal discussion, Joanna Whalley, Senior Metals Conservator, Victoria & Albert Museum, London 7th February 2006.

⁴ Kathie Murphy, personal interview, 17th December 2003

⁵ Mah Rana, personal interview, 4th November 2004

⁶ Julia Manheim, personal interview, 24th November 2003

⁷ Personal interview, Paul Derrez, 13th November 2006

⁸ Personal interview, Paul Derrez, 13th November 2006

condition and should not all the jewellery in mima 'be restored and remade' to ensure they are worth the desired maximum?⁹ During the author's interview with him, Derrez was taken aback at the suggestion of maintaining original material of plastic jewellery objects rather than simply replacing damaged or deteriorated ones.

Derrez's experience of the interacting spheres of commercial galleries, creating artists and jewellery collections is not unique. Flora Battachary, former Jewellery Manager of Contemporary Applied Arts, London and Janice Clive, Manager of Electrum Gallery, London also stated that museums and collections do buy from them, whilst also regularly dealing with repairs on plastic jewellery, sending them back to the artists who made them.¹⁰ As stated in the 1979 Berne Convention, artists do have legal rights over alterations to their art.¹¹ Artist intervention to remake their work, as evidenced above however, goes beyond voicing or even exerting opinion. Sanctioning an artist to remake their work, as we shall discover, may result in the art being fundamentally changed from the original intent. When this occurs, the owning collection may feel the artwork is no longer the work they selected. Any problems the artist intended to put right may be far from resolved.

6.2 Adam Paxon, *Spondylitis*, 2003

Adam Paxon's necklace *Spondylitis*, 2003, and two associated rings, *Squirring Rings with Tail*, 2003, were purchased by Middlesbrough Institute of Modern Art, (mima) in 2005 for the International Contemporary Jewellery Collection from the gallery Contemporary Applied Art. As it was a significant addition to the collection the purchase was aided by grants.¹² The necklace is made predominantly from poly(methyl methacrylate) (PMMA) beads and is strung with

⁹ Personal interview, Paul Derrez, 13th November 2006

¹⁰ Personal discussion, Flora Battachary, 16th March 2004; Janice Clive, personal discussion 25th March 2004

¹¹ Lennard, Frances, 'The Impact of Artists' Moral Rights Legislation on Conservation Practice in the UK and Beyond,' 14th Triennial Meeting of the International Council for Museums Conservation Committee, The Hague, Netherlands, 12-16 Sept 2005, (London: James & James, 2005) 285-290.

¹² The necklace, *Spondylitis*, cost £5,500 and was funded by The Art Fund, V&A/MLA Purchase Grant Fund, Arts Council England, North East. The rings were £1000 each, one was acquired through the Northern Rock Foundation Craft Acquisition Scheme; the other was gifted through the Contemporary Art Society Distribution Scheme. James Beighton, personal discussion, 2nd February 2006

nylon filament. The construction comprises a repetitive geometry of long undulating beads patterned with a multi-coloured mosaic of lime and pink, approximately 3 cm long, alternated with 16 almost spherical pendants of layered transparent and mirrored PMMA (see fig 109). Each globular pendant has a rigid slender stem extending into a rounded pierced bead that enables stringing and allows the sphere to hang below the level of the other beads. Eight of these stems are constructed from multiple layers of PMMA whilst eight are from one piece, formed and carved. A colourless nylon thread passes through the beads forming the necklace. The necklace is entitled *Spondylitis*, after the disease afflicting the spine, because its regular pendular shapes recall inflamed vertebrae.



Fig 109. Adam Paxon, *Spondylitis*, 2003 (PMMA, resin, nylon line) mima, artist's image

With this particular necklace Paxon ventured into an aesthetic exploration of reflection and refraction of light, exploiting the visual properties of transparency and exceptional clarity in PMMA, whilst dispensing with intricate internal detail which is characteristic of his earlier pieces. He showcases technical prowess with PMMA by means of elaborate medleys of colour in each long bead, juxtaposed with spartanly embellished and flawlessly polished spheres. *Spondylitis* is substantial in size, (330 x 320 x 40 mm) and weight, but according to Flora Battachary, one time jewellery manager of Contemporary Applied Arts, London, *Spondylitis* 'sits very comfortably, it does have practical wearability.'¹³ Flexibility within the necklace, enabled by the nylon filament, is vital for its wearing function and, in the artist's promotional image of the work, the necklace is seen

¹³ Flora Battachary, personal discussion, 16th March 2004

draped over the shoulders of the body extending down the back and chest (see fig 109).

Squirring Rings with Tail echo the polished spheres of *Spondylitis* in form and appearance and all three pieces (necklace and rings) synthesise visually and conceptually. This unique group is considered by the mima Curator of Craft, James Beighton, as the most accomplished output by Paxon to that point. Paxon's creative journey is vividly illustrated by these works when they are considered alongside earlier pieces in the mima collection and elsewhere.¹⁴ Prior to purchase the three pieces were exhibited internationally, reflecting Paxon's growing reputation. Geographically, they covered a great distance. As Battachary indicated, an unrecorded quantity of handling and wearing of the pieces took place during this time.¹⁵ They travelled from Paxon's studio in Glasgow to Sculpture, Objects and Functional Art exposition 2004 (SOFA) in Chicago, USA before heading back to the Scottish Gallery, Edinburgh for their Anima exhibition. Shortly after they were shown by Contemporary Applied Arts at Collect exhibition of applied arts at the Victoria & Albert Museum, London, 2004 and later exhibited in Korea, by Paxon himself, on loan from mima.

A robust and substantial appearance notwithstanding, *Spondylitis* proved to be exceptionally fragile in construction, and damage occurred before the piece had been fully accessioned by mima. During a period of six to eight months, a total of six spherical globes with layered stems became detached (see fig 110). The PMMA layers that comprise the stems of eight of the spheres split. Shock of movement is the most probable cause. These thin laminated stems offered too little a surface area for the layered PMMA, fused by solvents, to hold together. The rigid nature of the stems promoted stress at these weak points during movement, since weight shifts by the globes could not be absorbed by moving parts or flexibility.¹⁶ Three of the spheres became detached whilst the necklace was in Korea and it was returned to the artist for the stems to be remade. On its return to mima from the artist, after this first remaking, another two orbs became detached during transit. Again it was returned to the artist. During its second return to mima another sphere broke and the nylon thread snapped

¹⁴ James Beighton, personal discussion, 2nd February 2006

¹⁵ The rings also sustained damage during this period and is discussed in chapter 5.

¹⁶ *Spondylitis* was first examined by the author at mima on 2nd February 2006, when this diagnosis was made.

because it was unable to support the necklace's weight (see fig 111).¹⁷ Paxon was required to remake it a third time. On each occasion the artist responded by making the affected stems wider and, finally, the nylon filament much thicker.

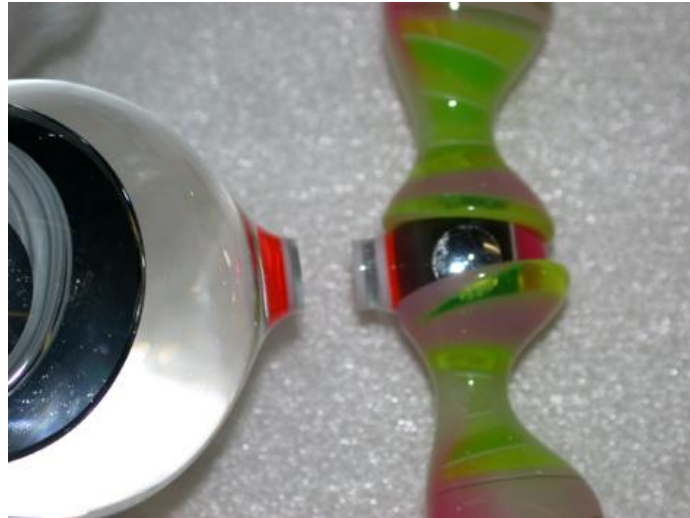


Fig 110. *Spondylitis*, detail of delaminated stem



Fig 111. *Spondylitis*, detail of detached orb and broken nylon line

Finally *Spondylitis* was structurally secure but more severe dilemmas were apparent. Understandably frustration was rife on both sides, but most crucially on Paxon's part. In attempts to prevent further globes becoming detached he

¹⁷ James Beighton, personal discussion, 2nd February 2006

reported how he thumped the now attached spheres on his wooden bench to test their strength, which resulted in mechanical damage (indents) to the otherwise flawless surface.¹⁸ Additionally, greater use of solvents during repair promoted crazing in the mirrored sections, which no longer reflect light to the same degree (see fig 112). Paxon claimed he is not vexed by such change but this is diametrically opposite to his exploration of balletic light performances within the work and laboriously produced surface sheen.¹⁹ More likely he lost any patience needed to remake the components when faced with such problems.²⁰ Most importantly, the strengthened stems have fundamentally changed the appearance of the necklace. No longer do the globes hang precariously from fine stems, invoking an impression of inflamed prickly irritation, a deliberately uncomfortable vision on the part of the artist; instead *Spondylitis* has lost this tone, becoming sturdy and solid looking. Any flexibility offered by the initial nylon thread is now lost. The wearing sensation described by Battachary is no longer possible, the necklace is rigid and unable to bend and be worn as intended. A final abuse caused by the new nylon thread was a break in a bead and deep striations on the threaded sections because they are now unavoidably forced against each other, causing damage to each other during movement. The necklace is no longer able to communicate its original artistic intent because it has changed in appearance and lost its wearing function. In early 2006, Beighton, the curator, declared *Spondylitis* permanently impaired, no longer the object he selected for the collection and is considering writing it off to insurance.²¹

¹⁸ Adam Paxon in conversation with James Beighton, Curator of Craft, mima conveyed to the author on 2nd February 2006

¹⁹ Adam Paxon in conversation with James Beighton, Curator of Craft, mima conveyed to the author on 2nd February 2006

²⁰ By this stage communication between curator James Beighton and artist Adam Paxon had all but broken down and discussion with the artist was not possible without inflaming the situation further.

²¹ At time of writing the curator has yet to make this decision, or indeed if *Spondylitis* has any role to play within the permanent collection of mima.



Fig 112. *Spondylitis*, detail of crazed PMMA

6.3 Caroline Broadhead, *Grid Armpiece*, 1981

Similar to *Spondylitis* it was mechanical failure of the construction caused by trauma rather than deterioration of the plastic material that led to remedial conservation work undertaken on Caroline Broadhead's *Grid Armpiece*. The artwork is also held in the mima collection and conservation treatment occurred during 2006-7. In this case, however, it was the artist's evaluation that identified the jewellery as unable to fulfil its role in the collection rather than the curator's, and the artist was used as an advisor rather than a practitioner. A square grid in form, the bangle comprises 12 nylon filament lengths and four wider strips cut from a sheet, dyed a royal blue colour.²² The four strips are 85 mm in length and form the perimeter of the square. The filaments (approx 120 mm long, 0.9mm diameter) extend between opposite sides of the square, 6 evenly spaced in each direction and are woven up and over one another, as in an open plain weave structure (see fig 113). The grid comprises uniformly sized holes of approximately 15mm². Both ends of every filament extend through holes in the strip edges and are secured with a bead of nylon that has been formed at the filament tip through melting.

²² Confirmation of material content was enabled by FTIR conducted by Dr Paul Garside, Research Fellow Textile Conservation Centre, University of Southampton, 20th November 2006.

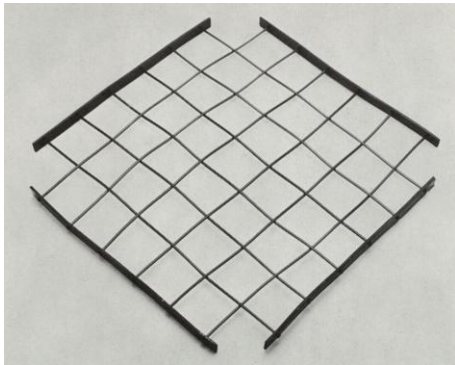


Fig 113. Caroline Broadhead, *Grid Armpiece*, 1981 (nylon, dye) artists' image dated 1981 showing original appearance



Fig 114. *Grid Armpiece*, condition in 2003 as seen in storage at mima, J0013

Broadhead's aim with *Grid Armpiece*, was to challenge perceptions of wearing jewellery because she was causing observers to question how to put something on.²³ On initial observation the piece is a confusing prospect since there is no immediately obvious place to insert one's hand in the grid. *Grid Armpiece* can, in fact, be placed on the arm using any of the grid holes by pulling the filaments apart, which yield to accommodate the limb and, theoretically, spring back into place afterwards. The flexible nature of nylon filament, which was the primary material with which Broadhead created at the time, is central to the bangle's success since it could not function otherwise.

During the early 1980s *Grid Armpiece* was acquired for the mima collection. The exact details are not recorded but, consistent with the mission of the collection in its infancy, the piece was used as an educational tool for handling sessions and display. Archival images reveal that the bangle was worn, a state also borne out by its physical condition. When first examined by the author in 2003, it had been in a damaged condition for a number of years. The filaments appeared stretched, with a gaping hole at the centre point of the grid, larger than elsewhere within the grid, where an arm had evidently been inserted (see fig 114).²⁴ The filaments had not sprung back to position as the artist intended. Now the filaments could not be placed back into position either as they spontaneously moved back apart. Both the physical and conceptual dialogue was disrupted by this. When consulted Broadhead confirmed this state was contradictory to her design since the distorted filaments eradicated ambiguity. She asserts 'I was

²³ Caroline Broadhead, personal interview, 25th November 2003

²⁴ The author initially examined *Grid Armpiece* at mima in 2003.

trying to make something look as though it wasn't a bracelet, so by being stretched in that way it has taken away that kind of layer.'²⁵ A gaping central hole is too suggestive of how the bangle could be worn.

The author and mima curator perceived that *Grid Armpiece* was changed detrimentally and it required a strategy for conservation to reinstate the original appearance. Broadhead agreed that her intent was currently distorted but she proposed a different approach to solving the issue when she was consulted. She remembered how the material behaved when new and the techniques she employed at that time. By applying this knowledge to the present situation she described how she would improve the current appearance, using her own process. She explained 'no it's not damaged, you can just pour boiling water on it and it will be fine to get it back to the original.'²⁶ Whilst limited and controlled warmth is a potentially suitable manner for reshaping nylon in good condition, boiling water was considered too uncontrolled a method and was rapidly discounted as a means to restore the intent. The quantity of heat may well have catalysed deterioration of the nylon. In addition, nylon absorbs moisture, up to 8% in an environment saturated with moisture, which increases the mobility of the polymer chains, giving flexibility. Swelling and dimensional change of nylon will also occur.²⁷ Although absorbing water will temporarily give flexibility to nylon that in all likelihood would have assisted the reshaping of *Grid Armpiece*, such take up of water is considered deleterious to nylon in the long term.²⁸ Deterioration via hydrolysis, or the addition of water molecules, causing a reduction in molecular weight leading to weakening is acknowledged within conservation.²⁹ Employing Broadhead's method is likely to have caused deterioration to the material. Hence, whilst Broadhead's explanation revealed her original working practices, the same procedure was not pursued for conservation purposes. Instead, paying heed to Broadhead's comment regarding the loss of intent in the distorted bangle, the mima curator commissioned conservation (by the author) to realign the nylon filaments using controlled techniques. The

²⁵ Caroline Broadhead, personal interview, 25th November 2003

²⁶ Caroline Broadhead, personal interview, 25th November 2003

²⁷ Brent Strong, A. Plastics Materials and Processing, (London: Prentice-Hall International Ltd, 2000) 239

²⁸ Personal discussion with Thea Van Oosten, Senior Conservation Research Scientist, Instituut Collectie Nederland, 21st July 2006

²⁹ Shashoua, Yvonne, Conservation of Plastics, Materials Science, Degradation and Preservation, (Oxford: Butterworth-Heinemann, 2008) 175

bangle was destined for display, for the first time in approximately ten years, within the new mima gallery in Middlesbrough in August 2007.³⁰



Fig 115. FTIR analysis of *Grid Armpiece* to confirm the material content

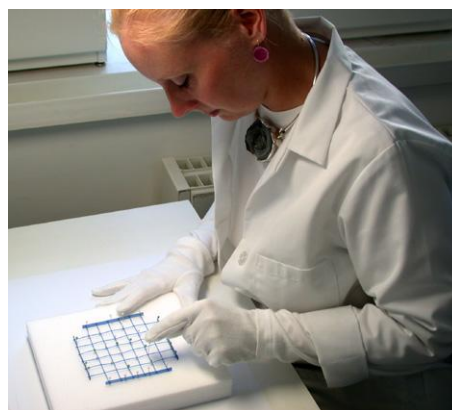


Fig 116. *Grid Armpiece*, reshaping in progress by the author

The material content of *Grid Armpiece*, was confirmed by Fourier Transform Infrared spectroscopy (FTIR), establishing the material as nylon with a copolymer (see fig 115). The exact class of nylon could not be distinguished. Such analysis was undertaken to ensure the material content was as the artist believed. Devising and undertaking treatment without being certain of this could, after all, be potentially dangerous to the object. Much like Broadhead's proposed intervention, without knowledge of the material content, the conservator could suggest actions that were harmful to the object.

Grid Armpiece was slowly encouraged back into shape over a period of four months. Reshaping was achieved by easing the filaments back into approximately their intended positions and through temporarily securing them with stainless steel pins stuck into Plastazote™ foam (closed cell cross-linked polyethylene foam), (see fig 116). The treatment report for *Armpiece* is given in appendix 4. The bangle was left in this position for three months. Ultimately warmth was not found necessary to assist the process. Measurements of the filaments' diameter, using a micrometer, showed that the four central strands had been stretched beyond their yield point since they were longer and fractionally thinner than the others present. Complete realignment was, therefore, not possible since the nylon could not be shortened. The excess length

³⁰ The author undertook conservation of Grid Bangle between October 2006 - June 2007.

has to be accommodated within the interior space, leaving the longest strands slightly curved. Nevertheless, the treatment did improve the appearance of the bangle considerably, and now it more closely represents Broadhead's aim than before treatment. The central gaping hole is largely imperceptible. Finally, a permanent storage mount was constructed to hold the filaments in position, without straining, for long term storage (see fig 117). Both the aesthetic and conceptual facets of *Grid Armpiece*, have been re-established.

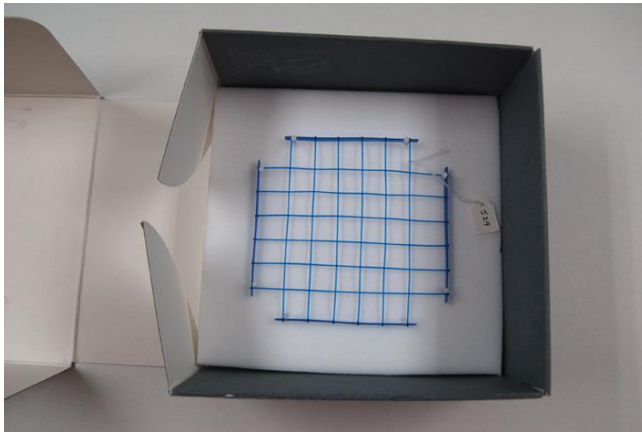


Fig 117. *Grid Armpiece*, after conservation treatment, presented in storage box

6.4 Recognising an Authentic Object

Artworks are normally considered to be of greater benefit to collections in good condition, as the jeweller Derrez instinctively realised. In good condition the maximum information and most accurate interpretation may be gained from objects.³¹ With this thought in mind it is only to be expected that these two jewellery artworks received attention. Both had become damaged so that the information gained through interpretation was distorted. It is worth noting here that as the changes in each artwork were caused through mechanical damage to the construction practical intervention was feasible. The plastic materials themselves had not degraded noticeably. Should chemical deterioration to the materials have been the cause of these changes such intervention is unlikely to have been realistic on any level. Yet conservation of *Grid Armpiece* with Broadhead's verbal contribution was a success whilst sadly Paxon's remaking of *Spondylitis* has all but destroyed it. The notable lesson here is that the treatment of *Grid Armpiece* was carried out by someone skilled and knowledgeable in the process of conservation and the other, *Spondylitis*, was not. The aims of the conservator and artist differed considerably.

The concept of authenticity is central to understanding why the perspectives of these two professionals are at odds. Within the conservation profession, and museums generally, authentic artworks are sought. Pye reports that authenticity indicates an object is genuine in terms of materials, workmanship and date, thus implying accurate factual information may be drawn from it.³² Ashley-Smith stands in agreement with Pye in expressing that an authentic object provides pertinent evidence, or the true data because its documentary information is accurate.³³ What these perspectives imply, however, is that the point at which an object is authentic can be recognised. Alterations or changes due to deterioration are obvious, not misleading, and the true original object can be detected. What is not overtly considered in these standpoints is that an alteration to an object could become a significant part of an object. An object can still qualify as authentic even with changes although what constitutes a significant and alteration or change is subject to interpretation and this may

³¹ Clavir, Miriam, *Preserving what is Valued*, (Vancouver: University of British Columbia Press, 2002) 30

³² Pye, Elizabeth, *Caring for the Past: Issues in Conservation for Archaeology and Museums*, (London: James & James Science Publishers (2001) 59

outlook also is subject to variation over time.³⁴ Moreover, if an object is altered by the original maker, is this still the genuine article? As we shall see, confusion surrounding these points contributed towards the intervention with *Spondylitis*. Clavir meanwhile presents a more reflective opinion why human beings may wish to appreciate an authentic object. Because it helps them relate to the past they seek to understand. She states 'by virtue of its survival, [the object] maintains a direct and unique relationship to past events.'³⁵ An object that remains unsullied by alterations and damage is easier to interpret; the past is more accessible and more easily imagined.

As neither *Spondylitis* nor *Grid Armpiece* could be interpreted accurately due to the damage they had endured, intervention was intended to regain the authentic object. That is, the curator anticipated the artworks would be returned to their original configurations. To put it another way, the curator instinctively envisaged the configuration he sought for both objects was the point at which the artists first chose to present their work, when the artworks were acquired. At this moment presumably the artists' ideas were being expressed in the manner they desired, through the objects they created. What the curator did not realise is that a conservator works within a continuously debated and considered ideological framework where authenticity plays a significant part and an artist does not.³⁶

Conservators are at pains to recognise and maintain, or in the case of these two jewellery pieces, recapture the authenticity of a work of art. With *Grid Armpiece* the conservator identified the original configuration as the benchmark or point of reference to work from. By conferring with Broadhead, this information was deliberately sought. From the artist testimony it became clear the intended ambiguity of an evenly spaced lattice was needed within *Grid Armpiece* for

³³ Ashley-Smith, Jonathan, *Risk Assessment for Object Conservation*, (Oxford: Butterworth Heinemann, 1999)

³⁴ Muñoz Viñas, Salvador *Contemporary Theory of Conservation*, (Saint Louis, MO: Butterworth Heinemann, 2004)

³⁵ Clavir, Miriam, *Preserving what is Valued*, (Vancouver: University of British Columbia Press, 2002) 28-29. Parentheses added by author.

³⁶ Eastop, Dinah, 'Conservation as Material Culture,' Tilley, Chris. Webb, Keane. Küchler, Rowlands, Mike. Spyer, Patricia eds. *Handbook of Material Culture*, (London: Sage Publications, 2006) 516-533
Muñoz Viñas, Salvador *Contemporary Theory of Conservation*, (Saint Louis, MO: Butterworth Heinemann, 2004)

accurate interpretation. Thus the original configuration may be regarded as the authentic state of the object because accurate information or interpretation is obtained from it. Treatment options were thus built around this aim. Furthermore, discussion was had with Broadhead but parameters were established for the extent of her contribution and this is an important distinction to make. Her involvement was vital and, in fact, actually encouraged remedial treatment to take place because testimony revealed she did not wish the damaged artwork to be displayed.³⁷ Yet her opinion and techniques were employed as a guiding principle, not a recipe. By engaging the services of a conservator to undertake the work, a more objective standpoint towards the intervention was enabled.

As shown by the intervention on *Spondylitis*, to work outside the ideological framework adhered to by professional conservators is both possible and undesirable. The appearance and ability of *Spondylitis* to function was permanently changed from the original configuration through intervention that took no heed of conservation principles. Paxon, the artist, did not see the original construction as a point of reference. He saw a continuing relationship with the necklace and when it was returned to him on several occasions this relationship merely continued. He responded to the materials as necessary to empirically discover a way to make the necklace hold together. He continued working until the necklace was fixed but also inadvertently changed. In essence he was too close and too involved to his artwork to understand what he was trying to do. Nor was it communicated to him.

The curator for his part did not determine or discuss what constituted the authentic work for him. Beighton failed to convey that he expected the original configuration preserved because he mistakenly believed that Paxon, as the artist, was the ultimate authority on his own work and was best placed to work on it. Here some uncertainty in the concept of authenticity may be identified. If the artist remakes his own work, is this a significant alteration that deserves preservation? Arguably, yes, this could be the case. Moreover, if, as Pye contends, an authentic work is genuine in terms of workmanship and materials, then the reworked *Spondylitis* is still the indisputable object. After all, the necklace is still an original artwork by Paxon. No other hand has altered the object. He used the same materials and sanctioned the changes. As far as Paxon

³⁷ Caroline Broadhead, personal interview, 25th November 2003

is concerned what he is presenting is still his necklace. Beighton can see the differences, however, and realises that the remade necklace is no longer the original object he selected. It becomes evident that the point of authenticity in this piece is not necessarily static, and is dependent upon the perspective of the stakeholder. Like many values associated with artworks, authenticity is subject to constant flux.³⁸ Moreover, there was a clash of values and expectations between the curator and artist at play. The artist valued the necklace as a wearable piece of jewellery and so remade it to function as such. Arguably *Spondylitis* is more authentic if wearing is possible. As demonstrated in chapter 5 a significant level of interpretation is lost to jewellery if wearing is not possible since the original character of the object is unobtainable. But in this case to make the necklace wearable it needed to be changed in appearance. The curator, by contrast, valued the necklace most for its original appearance and expected this to be maintained. In this example, to preserve the appearance actually means forfeiting the wearable function since in its original configuration it is too fragile for such activity. Since *mima* no longer allows handling and wearing of its collection this compromise is perhaps acceptable in this instance.

In essence what Paxon considered his now finished work, hence authentic for him, was actually a changed artwork for Beighton. Beighton's point of reference was the earlier version. For Paxon, changing the object presented few problems and understandably so. As an artist his work centres on continual creativity and he has never been expected to work within bounds set by museum standards and expectations before. With Broadhead, the ideal appearance of the object, required by the curator, was established through discussion between conservator and artist. The conservator was able to place the opinion of the artist within the professional ideological framework to provide an output that was appropriate from a museum perspective, rather than just the artist's.

What becomes apparent from the fact that both artworks were readily damaged, is that the artists' understanding of material behaviour is incomplete.

Broadhead's comments on her approach to treatment and Paxon's reworking compound this premise. Neither artist could envisage the behaviour of their

³⁸ Talley, M. 'The Eye's Caress: looking Appreciation and Connoisseurship,' Historical and Philosophical Issues in the Conservation of Cultural Heritage, Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 28

chosen material and its application in the long term. Although the artists sensed the properties of the materials and exploited them with originality, it was for immediate effect only. Possibly this reflects Broadhead's belief that she did not envisage that her work would last, as discussed in chapter 4. So perhaps she believed there was no need for a longer term understanding of material. Yet creating successful and innovative applications for plastic materials requires not only creativity and a sense of material properties, but how these may combine as functioning objects. Lea Jones, Conservation Manager at the V&A, eloquently explains the issue,

'it is often essential in designing systems that users have or acquire some ability to project forward into a theoretical understanding of how things might work in practice. It is this inability to leap that divide in the imagination that so often leads to a disastrous mismatch between perceived needs and practical solutions.'³⁹

She speaks of a broadly applicable principle of which Paxon and Broadhead both fell foul. Today both artists have discovered that survival of their work is a possibility, which in turn determines that a better understanding of their materials is desirable. The fact that artists may not have a full understanding of material behaviour is, however, all the more reason for a conservator to be involved in remedial work. A conservator is trained to understand material behaviour, and from a molecular level, hence understands an object from the inside out. Whilst the artist is able to voice opinion regarding the intent, a conservator is well placed to understand a problem that an object is facing in practice. This may include identifying why any problem arose in the first place and predicting how the material may behave under various treatments, in addition to positioning any treatment within a framework of conservation principles.

The differing roles between artists and conservators have become evident, yet equally significant distinctions between the roles of the conservator and curator also exist. These may be understood by looking at the application of connoisseurship in their roles. Kavanagh describes connoisseurship as 'an

³⁹ Jones, L. 'Hankyū – The Final Analysis? A New Approach to Condition Reporting for Loans,' V&A Conservation Journal July (1993): 16

instinctive response to quality in art, based on a detailed knowledge of form and style.⁴⁰ The mima curator, Beighton, did in fact respond in this way when dealing with *Spondylitis*. Whilst he did not understand why the structure failed nor could he predict how Paxon may fix it, he could nevertheless recognise when the appearance of the necklace was detrimentally changed. In doing so he was able to determine that *Spondylitis* was unable to function appropriately within the collection. Hence within the present context Beighton appreciated the artwork predominantly from an aesthetic point of view. Equally, the conservator treating *Grid Armpiece* used an aesthetic appreciation to understand what was wrong with the artwork. In addition, knowledge of original material and construction methods was applied. Such combined information enabled the conservator to understand what the original intent was and assisted in devising treatment to reinstate this. Talley, who has written extensively on connoisseurship in conservation, considers that the use a conservator makes of connoisseurship is obvious, precisely because they draw on aesthetics to appreciate the original appearance of an artwork.⁴¹ Moreover, he argues that the primary consideration of an artwork should always be its aesthetic significance. He believes 'concentrating on the documentary relevance of an artwork eventually reduces it almost solely to the status of purveyor of information.'⁴² In his mind such documentary information, such as materials, technique and stylistic development is merely 'added value' or bonuses to an artwork.

Talley, however, appears to be underestimating the importance of documentary information in conjunction with aesthetic appreciation. Making use of documentary information in conjunction with aesthetics, at least for *Grid Armpiece*, demonstrates how the conservators' approach generally differs from the curators'. For a conservator the documentary aspects of an artwork, such as materials, are surely interdependent factors, not merely add ons. In this instance the conservators' use of connoisseurship incorporates a broader selection of

⁴⁰ Kavanagh, Gaynor, *History Curatorship*, (Leicester: Leicester University Press, 1990) 114

⁴¹ Talley, M. 'The Eye's Caress: looking Appreciation and Connoisseurship,' *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 6

⁴² Talley, M. 'The Eye's Caress: looking Appreciation and Connoisseurship,' *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Readings in Conservation. (Los Angeles: Getty Conservation Institute, 1996) 2

information. By contrast, with *Spondylitis*, the curator stopped short of understanding the technicalities of the object and comprehending material limitations. Moreover, as he only understood the object from an aesthetic point of view he could not envisage the artist's remaking process that may ensue. Although he recognised that the object should retain its original configuration, he could not predict how the artist may continue working to hold the necklace together. Using a conservator instead of the artist did not seem relevant as a result. The artist, conservator and curator with their distinct expertise thus undoubtedly form a set of necessary professional connections when intervention on an artwork is required.

6.5 Perception of Age

Seemingly the age of both *Spondylitis*, 2003 and *Grid Armpiece*, 1981, strongly influenced the perception of each item and hence its treatment. *Spondylitis* was so recently acquired it was yet to be accessioned when its problems arose. The curator did not consider *Spondylitis* an artefact, more a work in progress, because it had limited history; its appreciation and resonance was just starting to accumulate. *Grid Armpiece*, by contrast, is over twenty years old, by now a celebrated and familiar piece, and well removed from the artist's creative moment, who had had no contact with the collection for some years.

By identifying the 'biography of things' or the distinct periods of their life Kopytoff demonstrates how objects are viewed in different ways as they age.⁴³ Kopytoff cites an example of an indigenous hut whose original use as a dwelling alters to grain store and finally chicken house as the hut deteriorates and eventually crumbles. Here age has affected how the object is received in a diminishing way. Each stage of the hut's life represents a change relating to structural weakness until it can no longer function in any capacity and no longer exists. For the jewellery pieces the aging process is more positive but the objects are no less subject to different perceptions because of the length of time they have existed. In museums, the advanced or increasing age of an object is often

⁴³ Kopytoff, I. 'The Cultural Biography of Things: Commodification as Process,' [The Social Life of Things. Commodities in Cultural Perspective](#), Ed. A. Appadurai. (Cambridge: Cambridge University Press, 1986) 64-94

considered to be a positive attribute for an object.⁴⁴ As mima has realised over time, discussed in chapter 3, the history the jewellery artworks represent has been seen as increasingly significant as the artist jewellery profession develops. *Grid Armpiece*, as one of the earliest pieces in the mima collection is considered important partly because of this fact. Its historical value has increased over time. Arguably, the well-published bangle now embodies historical reverence that led to greater reticence and respect for the integrity and artistic intent. Any damage on the bangle was better received because this is only to be expected on an older object. Furthermore, because it was an historic and important piece, giving its treatment real consideration was appropriate and desirable. Objectivity was thus afforded by passing time and a lack of personal contact with the artist. The bangle has survived way beyond its 'warranty' period and faults that arise are now inherently considered as the concern and at the cost of the collection. Intervention by a conservator, who in Beighton's perception treats mature rather than new items, was thus deemed viable and appropriate.

Spondylitis was seen to represent the present day, its historical value was less well developed. Such a contemporaneous and up to date work is not normally expected to have such drastic defects. The curator felt that *Spondylitis* was still in 'warranty' with an implicit service contract with the artist, with whom he is in constant contact. Any detached elements were regarded as faults in the design for immediate fixing, similar to altering a newly acquired outfit to ensure its fit, or a manufacturing fault in a new car recalled to be replaced by the maker. Beighton remarked 'I did not want it patched up, I felt it should be remade.'⁴⁵

Spondylitis seemingly embraced the present whilst *Grid Armpiece* epitomised the past, but the unfortunate result of Paxon's intervention affirms the jeweller Friedrich Becker's declaration that 'what you buy today is an antique tomorrow.'⁴⁶ Since Paxon evidently could not recapture the creative spirit of his art, desperate to hold it together rather than uphold his intent, unsuspectingly for those involved, *Spondylitis* was an historic object after all. Paxon completely and unwittingly reinterpreted his artwork on revisiting it, he had less interest in

⁴⁴ Clavir, Miriam, *Preserving what is Valued*, (Vancouver: University of British Columbia Press, 2002) 31

⁴⁵ James Beighton, personal discussion, 2nd February 2006

⁴⁶ Friedrich Becker's words in conversation with Beatriz Chadour-Sampson, personal interview, Beatriz Chadour-Sampson, 23rd March 2005.

what he believed a finished piece and wished to continue his creative journey. He had stressed even before this incident 'I would like space to carry on with things; ideas move on. It is a curious experience to handle work back from galleries,' perhaps a sentiment he needed to repeat when handed *Spondylitis* again.⁴⁷ Only after the disastrous remaking of *Spondylitis* did mima realise that age should not influence the treatment an object receives to correct physical faults.

The assertion that both objects need similar treatment or the requirement for an authentic object is not merely a desire for both objects to look new, however. The age difference between the objects remains important for their interpretation. Paxon was tutored by Broadhead at Middlesex University and there is a connection between the two artists and their works.⁴⁸ As Kavanagh relates, an object is not a sole source of information but a springboard for connections, relationships and questions surrounding that object.⁴⁹ Thus the aim of intervention in either case was not to make the object look fresh and so implying they were contemporary with each other. Instead it was maintaining the artistic intent that was of importance. Broadhead's work was appreciated in a certain way because in plastic artist jewellery perspectives it was an 'old piece'. This added value to it, or as Reigl expresses it gives an age value.⁵⁰ According to Reigl, objects embodying age value are appreciated because they look old. Despite this, Reigl also asserts that an object bearing signs of disintegrating maturity appear unsatisfactory because a new looking object is more appealing. Reigl readily admits there is conflict between age and newness value because they appear to contradict each other. In Grid Armpiece it is apparent that both of these values are of relevance within one object.

When damaged with distorted filaments, Grid Armpiece was jarring to view. There was a desire to return the appearance to its original configuration, new or authentic appearance. This was achieved through conservation treatment. Newness value is thus important to the artist and mima. On close inspection,

⁴⁷ Adam Paxon, personal interview, 19th March 2004

⁴⁸ Caroline Broadhead, personal interview, 25th November 2003

⁴⁹ Kavanagh, Gaynor, *History Curatorship*, (Leicester: Leicester University Press, 1990) 63

⁵⁰ Reigl, Alois, 'The Modern Cult of Monuments: Its essence and its Development.' *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, Stanley Price, Nicholas, Kirby Talley jr, M., Melucco Vaccaro, Alessandra ed. Readings in Conservation, (Los Angeles: Getty Conservation Institute, 1996) 80-81

however, some signs of age inevitably remain on *Grid Armpiece*. Scratches from use that may be interpreted as 'change from use' are seen. These were not removed by conservation treatment and stand as testament to its age. Whilst 'change from use' may or may not be desirable for the artist or curator and certainly not intentional, such marks remain as evidence of the past life of *Grid Armpiece*; reiterating that it remains practically impossible to unravel the process of ageing from the process of history. Moreover, age value on *Grid Armpiece* remains a visible attribute yet its authentic appearance can exist as well.

6.6 Perception of the Damage

Perceived differences in the speed and impact of the damage occurring in each case were other key factors influencing the approaches taken with each object. Waller identifies that events causing damage can differ according to their frequency and impact and thus helps to identify types of risk objects maybe subject to.⁵¹ He suggests that a rare event may have a catastrophic outcome, more frequent ones have a lesser but still serious impact, whilst continually present occurrences exert a gradual effect upon objects. In the present scenario Waller's categories assist in explaining why the individual damages were seen differently by Beighton. Certainly the impact of damage upon *Spondylitis* could be described as ruinous, possibly catastrophic for this particular artwork. The event causing the damage was certainly not gradual. Damage to *Grid Armpiece* was, however, continuous, occurring over a long period, caused by repeated trying on. Damage here was less noticeable on individual occasions.

Thus, Paxon's work was thought to need immediate attention whilst Broadhead's was left for some years before conservation treatment was considered. Understandably the rapidity of damage in *Spondylitis* was not only a surprise in a newly acquired object, but also a shock. The impact and risk of greater damage appeared heightened. In all probability the earlier travelling had exacerbated weakness in the structure that only later became apparent. The recurring nature of the breaks demonstrated also that the structure of *Spondylitis* was incredibly unstable. In Beighton's mind, who did not comprehend why elements of the

⁵¹ Waller, Robert, 'Conservation Risk Assessment: A Strategy for Managing Resources for Preventive Conservation,' Preventive Conservation: Practice, Theory and Research. Preprints to the Ottawa Congress, 12-16 September, 1994, International Institute for Conservation, 1994, 12-16

construction failed, the necklace seemed vulnerable to a great deal of further damage. He instinctively sought an immediate answer to prevent this, having an almost knee-jerk reaction to the surprise of several breaks in a prestigious and externally funded object.

By contrast, damage to *Grid Armpiece* was cumulative over at least two decades. Having lain misshapen for some years the curator did not perceive the damage was as immediately serious or acute as it was for *Spondylitis*. A careful consideration of options ensued rather than a rapid response to the problem in hand. Of course *Grid Armpiece* was unlikely to change further now that handling and trying on are no longer permitted within the collection generally. In this way Beighton's assessment of the situation was correct.

Yet despite the differences in rate and impact of the events causing the damage, the ultimate result, in both pieces, was very similar. Waller's system does not relate one type of damage to another. As Ashley-Smith notes, the effect of gradual loss will eventually match that of a catastrophic loss.⁵² Hence, it does not matter how long it took for the damage to occur in the jewellery artworks under consideration. The point at which treatment was considered for each the outcome of the damage was comparable. In each jewellery artwork the artist intent was distorted and accurate interpretation of the intent no longer possible. Each case did not justify a different approach or interpretation because there were actually more similarities than at first apparent.

Furthermore, the mechanical damage to *Spondylitis* was rapid and further damage was seen as a distinct possibility. This was not necessarily the case. Once the globes on *Spondylitis* had become detached they were unlikely to change further, just as *Grid Armpiece* had lain in its damaged condition for years. A bespoke storage box that held *Spondylitis* securely would easily have prevented further damage whilst options were considered, as they were for *Grid Armpiece*.

⁵² Ashley-Smith, Jonathan, Risk Assessment for Object Conservation, (Oxford: Butterworth Heinemann, 1999) 128

6.7 Suggested Alternative for *Spondylitis*

Clearly the approach taken was not appropriate for *Spondylitis* but what conservation measures could have been employed? The delaminated and detached globes could have been reattached without remaking. An adhesive or even fusing with solvent is possible to achieve this. Obviously testing is needed to determine the exact method and to build on past knowledge of such treatments.⁵³ Much as Broadhead's were, Paxon's techniques could be understood through consultation with him. This knowledge should be applied and interpreted within the framework of conservation principles and such an approach would maintain the original intent. Given the small surface area, the joins in the stems would necessarily remain fragile and vulnerable but this may be accommodated through preventive measures. A bespoke storage and display mount could be devised to support the weight and prevent movement of the globes in the future. A restriction on outside loans would also help ensure future damage to the globes is minimised. Instead of replacing the broken nylon thread with another thicker one, a strong yet still flexible material such as a cotton braid could be inserted and the ends secured together by binding and stitching with thread. The original nylon thread could be retained as evidence of the original. The changes inflicted by the thicker less flexible thread as at present would be eliminated. It illustrate the important concept of flexibility and movement any display mount would need to fully support the necklace but also demonstrate how it was intended to be worn. Certainly an innovative solution would be required, possibly in conjunction with the artists' promotional image of the necklace being worn. The artist fixed the necklace so that it could be worn and so this is clearly an important concept for him. Even if the curator essentially valued the necklace for its aesthetic appearance, as mentioned above, the wearable element and the inbuilt qualities that were designed to enable wearing should be acknowledged. In this way the clash in values identified between the artist and curator are mitigated to a degree.

The artist's desire to intervene with their work that might have been considered finished is not unusual. Artist Francis Bacon (1909-1992) requested that he wished to add a green carpet to his painting *Study for a portrait on a Folding Bed*, 1963, owned by Tate Modern, London soon after they acquired it. Although

⁵³ Sale, Don, 'An Evaluation of Eleven Adhesives for Repairing Poly(methylmethacrylate) Objects and Sculpture,' *Saving the Twentieth Century: The Conservation of Modern Materials*, ed. David Grattan (Ottawa: Canadian Conservation Institute, 1993) 325-336

he stated he always intended to do so, the trustees did not allow it fearing he would substantially alter or destroy the canvas.⁵⁴ Other artists have, however, realised that revisiting artworks is actually difficult to achieve. Dutch artist Henk Peeters (b.1925) was asked to explore the remaking of his foam panels *59-18*, 1959, which had degraded.⁵⁵ After some exploration into the necessary materials and techniques, both the conservator involved and the artist realised it was unwise. The exact foam could not be sourced nor the creative moment replicated.

Keeping an artist at arm's length from their work, listening to their opinions and suggestions but not allowing them to touch it again, seems not to be supported by the 1979 Berne Convention. The artist is a vital stakeholder when the preservation of their work is considered, but not the only one. As discovered with Paxon, the artist and custodian may not necessarily agree, but conceivably the custodian can expect to retain the qualities of the object they first selected, despite the artist. Accordingly if artists' input is necessary and important should the artists also be held accountable for the faults in their work?

Discrepancy between design and behaviour in use may occur when artists continue to push the boundaries of their art, in both materials and construction. While a living artist will remain an aid for preservation and conservation, not a substitute, prudent regulation of an artist's input is necessary. A conservator, because they are removed from the creative process, may maintain a more objective position. At the same time a conservator may not fully understand the artistic intention – a major issue that prompts this thesis. Collaboration and mediation between jewellers, custodians and conservators are thus essential. In this way the concepts of preservation and conservation can continue to grow, ultimately overturning the idea of remaking and intervention that currently prevails in many artist jewellery quarters, particularly when plastics are employed.

⁵⁴ Information detailed on label next to painting in Frank Lloyd Gallery, Tate Modern, London. Viewed 6th January 2007

⁵⁵ Rodrigo, E. & Beerkens, L. 'For the Benefit of Science,' Modern Art: Who Cares? An Interdisciplinary Research Project and International Symposium of the Conservation of Modern and Contemporary Art, ed. Y. Hummelen, D. Sillé, (2nd ed. London: Archetype Publications, 2005.) 43-50

The case studies demonstrate how the themes explored in the preceding chapters are drawn together to enable conservation decision making. Identifying the application of materials and the properties that the artists rely upon to create intent are central to interpreting the impact of the change upon the artworks. Artist opinion is also crucial in determining this. Paxon implicitly decided that the change was unacceptable for him and the detached globes detracted from his meaning. The cause was structural and the fault inherent in the structure of the necklace. Broadhead also decided structural change was unacceptable for her even though, in this case, the change was caused through wearing. As discussed in chapter 5 such change from use can sometimes be viewed by artists as something to be valued. In this circumstance Broadhead did not feel this was the case and this was a key factor in proceeding with treatment. The age, hence history, of the artworks and relationship and distance, in time, between the artists and their jewellery was also a factor in the decision making processes. Moreover, the desire to preserve these artworks by *mima* and also the artists becomes explicit.

What is disappointing is that unfortunate experiences with Adam Paxon's *Spondylitis* are occurring in the present day in major institutions and highly significant collections. This is in spite of the modern materials conservation discipline rapidly expanding and becoming an established element of the conservation profession. This thesis aims to highlight the fact that plastic artist jewellery is deserving and urgently requires awareness and debate regarding its preservation and conservation. By drawing together curators, artists and conservators it further demonstrates that the situation cannot be solved by the conservation profession alone. Collaboration and debate is necessary.

Chapter 7

Conclusion

At the beginning of this thesis I stated that my aim was to position plastic artist jewellery and its preservation within the modern materials conservation discipline. Plastic artist jewellery has been overlooked in this respect previously. Now at the concluding point it is apparent that, although jewellery and its creation, thus bringing the need for preservation, is the central theme of my research, the connections that surround the subject, within and beyond the jewellery discipline, are pivotal. These connections are variously made between materials, objects (both jewellery and others) and the stakeholders who create, curate and preserve to enable further stakeholders to appreciate artist jewellery now and in the future.

I have demonstrated that the use of plastics for artist jewellery builds on precedents for the application of plastics in industrial and product design Fine Art and also earlier jewellery applications. All of these sources provided impetus and influence for the adoption of plastics for artist jewellery. Connections are equally possible between these creative spheres for their preservation and they should be viewed in like manner and plastic artist jewellery is equally deserving of preservation.

I have illustrated that plastics possess many creative possibilities for artist jewellers. Artist jewellers connect in earnest with the plastics they choose to create with. Both structurally and aesthetically plastics enable a broad exploration of the jewellery genre. Plastics are now, and will remain, a pervasive presence in the artist jewellery discipline. Artist jewellers respond creatively to the properties of plastics but their long term understanding of materials remains limited. Artists' knowledge of plastic materials is typically gained empirically. Jeweller Susanna Heron's (b.1949) work with polyester resin, discussed in chapter 3, showed a dramatic change in style of application in a short space of time and demonstrated how she learnt by doing. Jeweller Adam Paxon (b.1972) learnt a great deal regarding the structural limitations of poly(methyl methacrylate) in his *Spondylitis* (2003) necklace, discussed in chapter 6, but only once his jewellery was completed and acquired for a collection.

Realistically artists will not totally understand the behaviour of their chosen plastics particularly in the original and creative applications they continually make. Nor will conservators be able to predict the outcome of every artwork at the outset. Change will occur to plastic jewellery artworks. Preservation is the management of change. Such management of change through preservation remains highly variable amongst jewellery collections at present. Moreover, as part of this management, ongoing interpretation of change to objects is critical to interpret change and decide upon actions to prevent, mitigate or reduce its impact. The proposals in chapter 5 give some ways to interpret the changes seen on jewellery. Whilst I have deliberately restricted this research to plastic artist jewellery these principles can equally be applied to jewellery created with other materials.

Whether change to jewellery is acceptable and something to be valued or not, for me, is a key theme. Of all the themes in the research I believe this needs to be more widely acknowledged for plastic artist jewellery and also for plastic artefacts generally. One of my starting points for this research was the publication *Modern Art Who Cares?* and within this a decision making model for Fine Art to consider the relative importance of various factors prior to proposing a conservation treatment was highlighted.¹ Within this model it is implied that any change is to some detriment to the art, although it may have little impact. My argument builds on this idea and, in addition, helps emphasise that a humanities approach to modern materials conservation is as appropriate as scientific research.

The idea that change can be valued can be applied to all plastic objects and in this way the research has highlighted similarities and so connections between plastic artefacts generally. Further connections exist between functioning artefacts and jewellery. The wearing function of jewellery is embedded in artists' approach to making. Jewellery is designed with the body in mind and the connection between the body and jewellery remains highly relevant whether the jewellery is worn or is part of a collection where it may never be worn. The functional nature of other objects, such as musical instruments and costume, also remains important throughout their lifespans. Whilst initially artist jewellery may seem an isolated discipline, and this is how its history has tended to be

¹ Hummelen, L.& Sillé, D. *Modern Art: Who Cares? An Interdisciplinary Research Project and an International Symposium on the Conservation of Modern and Contemporary Art*, 2nd ed. (London: Archetype Publications, 2004).

written, my research demonstrates analogies can helpfully be made to assist and enable its interpretation and preservation.

Connections between people to interpret jewellery objects was also one of the aims of my research. The three perspectives of artists, conservators and curators were sought and encouraged during my research. The distinct roles of these professionals became most apparent in chapter 6 where the contrasting treatment of two artworks was analysed. Importantly it was suggested how these roles could work together effectively. At the end of my research I was invited by the Crafts Council, to participate in a project and to put these 3 way perspectives into further practice. I noted in the introduction that an article written by Amanda Fielding, then curator of the Crafts Council collection, highlighted the severe deterioration of a latex necklace by Christoph Zellweger, (b.1962).² The necklace *Chain* (1994) is constructed from metal components linked by latex tubing. The metal components remain in tact but the latex has stiffened so that the necklace can no longer hang as intended. Middlesbrough Institute of Modern Art (mima) owns a sister necklace *Red Chain* (1994) and this piece also shows the same significant change to the once supple latex.

The curator of mima, James Beighton, myself as conservator and Christoph Zellweger the artist were asked by the Crafts Council to participate in a project to debate the change, as well as some solutions for the necklaces, and from each professional perspective. Both necklaces were photographed to capture the change, each person was interviewed separately to elucidate their distinct role and a 3 way debate was had and documented (see fig 118). The project forms one of the first online virtual exhibitions for the Crafts Council and is presented on their website, and went live 30th June 2009.³ The contents of the online exhibition are presented in printed form in appendix 5.

² Fielding, A. 'Perish the Thought,' *Museum Journal* July (2001): 20-21

³ *Object in Focus: Chain & Red Chain by Christoph Zellweger* an online exhibition by the Crafts Council June 2009 available at <http://www.craftscouncil.org.uk/collection-and-exhibitions/exhibitions/online-exhibitions/view/object-in-focus-chain-amp-red-by-christoph-zellweger/introduction>



Fig 118. Christoph Zellweger's *Chain*, 1994 (latex and steel) being moved by (from left to right) the author, Sarah Turner, Projects Officer Crafts Council, & James Beighton, Curator of Craft mima, during the photo session for the online project, at the Crafts Council, April 2009.

Although no definitive conclusion was actually drawn for the future of the necklaces importantly the debate was raised and pertinent questions asked. Details of the discussions can be accessed in the context of the exhibition, and so are not detailed here (see appendix 5). Several points regarding this venture deserve mention as a concluding part of my research. Ironically, the Crafts Council used their most degraded piece of jewellery within their wide collection for one of their pioneering online exhibitions and preservation is overtly presented as a top priority for the jewellery. Moreover, change to plastic artist jewellery is further demonstrated as something to be valued. Zellweger and the owning custodians have discovered these pieces have gained considerable interest, and so value, since the latex changed. Not only is the change of artistic interest to Zellweger but it has also prompted the Crafts Council and mima to use their collection items in a new and engaging manner. As a result of the connections I made with mima, in particular, I believe my research contributed to the formation of this project and is evidence that preservation of plastic jewellery has gained some ground. The project is also a demonstration of the possibilities of virtual media for preservation issues.

Now at the end of my research I am able to reflect on the effectiveness of the methods and object centred approach I selected. If I had identified a very specific problem with a jewellery object first this would have probably resulted in a technical analysis. An approach that I felt had already been covered for modern materials conservation. I was keen to use a humanities perspective. The

object centred approach did however leave the research seeming open ended and unfocussed at the beginning. Identifying and drawing together the themes that ultimately are presented here took some time to develop.

My first response on examining jewellery artworks was that dramatic examples such as Zellweger's *Chain* and *Red Chain*, 1994, were the most important. Christoph Zellweger was my first interviewee. The change to the original intent was obvious and provoked strong reaction from the custodian and artist. For the Crafts Council on line exhibition I believe this is an appropriate piece with a strong message to engage an audience, who may not be familiar with conservation. The case study is perhaps a little histrionic and designed to catch the attention of a wider audience. For my research, aimed at a less general audience, however, I realised the dramatic examples were not the salient point. The drama involved in discovering and reconciling these obvious pieces led to other change on objects examined initially being overlooked. Within the introduction to my research I noted that it is generally the most sensational case studies of modern material objects that get published within the conservation profession.⁴ I do not wish to be guilty of the same. I also argued that for the approach to modern materials conservation to mature, a deeper more sensitive assessment of plastic objects was required. Any assessments needed to be in the same vein or framework as all for all artefacts. Plastic artefacts tend to be viewed as a collection of molecules that degrade rather than an object for ongoing interpretation. I believe my object led approach enabled a more sensitive assessment to occur.

Whilst examining Adam Paxon's (b.1972) *Squirring Ring* 2004 held in Middlesbrough Institute of Modern Art (mima) collection, discussed in Chapter 5, I experienced a step change in my thinking because I made connections between materials and their properties, objects created from the materials and artist testimony. I was working with mima's only conservator, a paper conservator, to assess the condition of the jewellery collection. The ring is created primarily from PMMA and at first both conservators gave the predictable and insensitive assessment that it was stable with some evidence of scratches. As I held the ring in my (gloved) hand I pieced together all of the knowledge I had regarding the properties of the material, the artist's application of PMMA and intent, gained via testimony, and finally the evidence in my hand. I realised the surface change

⁴ Morgan, Lyndsey, 'Chair Allen Jones 1969,' Material Matters: The Conservation of Modern Sculpture, Heuman, Jackie ed. (London: Tate Gallery Publishing, 1999) 73-81

was significant because it interrupted the intent. Moreover, the propensity of PMMA to scratch means the ring is far from stable but is highly susceptible to change. The paper conservator, who has not contemplated the same data sets, understandably did not grasp these subtleties and I explained them to her. Changes that may appear subtle to the untrained observer do matter. Not only did this demonstrate to me that the approach to draw together the information I had for my research was pertinent. I also began to look at plastic jewellery objects with a more discerning eye. I believe that at that point I gained a mature approach for looking at plastic artist jewellery.

Artist testimony was a major feature during my research. I originally envisaged that my own ideas about the preservation of the jewellery would be overturned by the opinions of the artists, the conservation ideals seeming staid by comparison with the artists' more artistic frames of mind. I was ready to accept that the artists may not be interested in preservation issues and would be dismissive. Certainly this is not the case, the vast majority found preservation a pertinent subject for their work as artists. Yet many had not articulated their thoughts on the subject before. This was a drawback in the interview process. Questions posed about the longevity and future of their work often left the artists thinking on their feet and feeling necessary to give immediate answers. Despite priming the artists well before the interview with the type of information to be addressed, at times I sensed some artists felt slightly awkward during these parts of the interviews. They were more comfortable discussing how they used their chosen material and why, familiar ground for them. Some answers obtained were not so much superficial as off the cuff. Would these artists have different opinions given a longer time to consider the ideas? Revisiting one or two of the jewellers to see if their opinions have developed since the initial discussions would be interesting and this may be a possible follow up project.

As the interviews progressed I realised I was permitting the artists to take control of their work again, essential for interpretation of change above all else. This connection was an objective of the interviews for the research. Many had lost contact with their jewellery or had not felt it their place to be involved in its future. Jan Yager, for instance, stated 'I am realistic I can no longer control it, only hope its fate will be considered and reflective of the good judgement of the owners or institution.'⁵ She recounted would be most grateful if her work were preserved for longevity. Christoph Zellweger, stood out as the only interviewee

⁵ Jan Yager, personal correspondence by email, 10th November 2003

already fully aware of his role in the future of his work stating that he 'reserves the right to change his perspective about the alterations to his work as time progresses'.⁶ His experiences with *Chain* and *Red Chain* are the probable causes of his self-awareness.

The artist testimonies produced a wealth of data and provided a crucial connection between the objects, the maker, the conservator and the role of the work within collection, which could not be gained by other means. The object centred approach to oral testimony appeared to be appropriate, it provided focus and an opportunity for reflection for all parties concerned.

My research is an initial exploration into the field of plastic artist jewellery and its preservation. As discussed above, revisiting artists to reveal any alteration in their opinion over time would enrich this initial research and enable reflection on the ideas presented. Two additional major themes for future research are apparent and were beyond the scope of the present project but would also augment, and indeed connect with, the present project. Firstly the use of images to represent jewellery objects to increase their accessibility and enable further interpretation and secondly the creation of replicas for the same reasons. Throughout my research I have viewed jewellery first hand but also in multiple images. Many artist jewellers are involved in creating images of their work as a means of expressing intent. These ideas were explored during interview and the application of images as a tool for communication has been noted in jewellery publications.⁷ The Crafts Council online exhibition also demonstrated how images could be used to communicate preservation issues. As digital images and methods of communication become increasingly prevalent in the heritage industry, connections between artist led images of their work when it is pristine and images to document changes to the artworks are possible.

Wearability has been demonstrated as fundamental for jewellery objects in this research. Where the ability to be worn is lost the creation of replicas could enable access to the original intent of jewellery artworks once more. The possibility of replicas was touched upon when Marga Staartjes (b.1953), *Pan Scourer Bracelets*, 1978 were examined, chapter 5. The original bracelets are now stiff and shrunken. A new pan scourer bought from a hardware store gave insight into the original properties of the materials and it became clearer why the

⁶ Christoph Zellweger, personal interview, 9th November 2003

⁷ Watkins, David, *The Best in Contemporary Jewellery*, Mies Switzerland: Rotovision SA. 1993.

artist had selected it. The creation of replicas for conservation forms an entire subject area and plastic artist jewellery can be situated within this. The advantages and pitfalls of creating and using replicas for communicating intent and the impact of its loss is ripe for exploration.

Plastic artist jewellery is a notable creative force. Its preservation is important. This research opens up the discipline for consideration in a preservation context and to enable stakeholders make connections with plastic artist jewellery for this purpose. Ultimately this will enable appropriate preservation decisions and choices for the jewellery and so positions these artworks within modern materials conservation.

Appendix 1

Artist Interviews and a List of Other Notable Discussions

A Record of Artist Interviews

Please see volume 2, appendix 6, for interview transcripts

Artist	Date interviewed	Location of interview
Christoph Zellweger	9 th November 2003	At the home of jeweller Elizabeth Callincos, Oxford
Jan Yager	10 th November 2003	Via email
Julia Manheim	24 th November 2003	At her home/ studio
Caroline Broadhead	25 th November 2003	Goldsmiths College, London
Nora Fok	17 th August 2003	Via email
Kathie Murphy	17 th December 2003	At her home
Lesley Strickland	12 th January 2004	At her home/ studio
Wendy-Sarah Pacey	1 st March 2004	At her studio
Adam Paxon	19 th March 2004	At his studio
Peter Chang	19 th March 2004	At his home/ studio
Susan Pietzsch	26 th October 2004	Middlesbrough Institute of Modern Art
Yuka Oyama	27 th October 2004	Middlesbrough Institute of Modern Art
Mah Rana	4 th November 2004	Crafts Council, London
Jivan Astfalck	18 th June 2005	At her home/ studio
Sarah Lindsay	15 th February 2006	Via email
Prof. David Watkins	18 th July 2006	Royal College of Art, London
Paul Derrez	13 th November 2006	At his home/ studio

A Record of Specialists Consulted During the Research

Many of the exchanges listed below were not conducted in the highly planned and formal manner of the artist interviews, because each was entirely different in scope, information, circumstance and length. Some specialists were encountered more than once. Nevertheless these knowledgeable and specialised individuals were able to impart nuance and factual data for the research in numerous ways. Like the artist jewellers, their voices too are heard throughout the thesis, some directly in documented quotes and others indirectly by enriching the understanding of a particular subject area for the author. In footnotes these encounters are described as discussions rather than interviews to denote the less formal nature of these meetings.

Curators/ gallery owners	Date of meeting	Location
Beatriz Chadour-Sampson, Curator Alice & Louis Koch Collection	Numerous occasions between 2003-08	At her home
Flora Battachary, Jewellery Manager, Contemporary Applied Art	16 th March 2003	Contemporary Applied Art, London
Janice Clive, Manager, Electrum Gallery, London	25 th March 2003	Electrum Gallery, London
Dr Elizabeth Goring, Curator, National Museum of Scotland	6 th May 2003	National Museum of Scotland, Edinburgh
James Beighton, Curator of Craft, mima	2 nd February 2006 and other occasions	mima
Amanda Fielding, Curator, Crafts Council	7 th November 2002 31 st October 2006	Crafts Council, London By phone
Paul Derrez	13 th November 2006	At his home, Amsterdam, Netherlands
Lotte Kostler, Gallery Assistant, Galerie Marzee	1 st December 2006	Galerie Marzee, Nijmegen, Netherlands
Galerie Oona	17 th June 2005	Via email

Conservators/ Plastics specialists	Date of meeting	Location
Brenda Keneghan, Polymer Scientist	7 th November 2003	Victoria & Albert Museum, London
Anita Quye, Senior Conservation Scientist	6 th May 2003	National Museum of Scotland, Edinburgh
Joanna Whalley, Senior Metals Conservator	7 th February 2006	Victoria & Albert Museum, London
Jackie Heuman, Senior Sculpture Conservator	7 th June 2005	Tate Britain, London
Colin Williamson, Director, Smile Plastics	26 th January 2005	At his home
Dean Graves, Director Zone Creations	15 th January 2005	Royal College of Art
Fleur Shearman, Metals Conservator	22 nd May 2006	British Museum
Susan La Neice Metals Conservator	22 nd May 2006	British Museum
Clare Ward, Plastics Conservation Scientist	22 nd May 2006	British Museum
John Loadman, Specialist in rubber technology, member of Plastics Historical Society	15 th June 2006	Plastics Historical Society, Institute of Materials, Carlton Terrace, London
Richard Dunn, Conservator, National Maritime Museum, London	25 th July 2006	West Dean College
Rory McLeod, Digital Preservation Manager, British Library	13 th September 2007	British Library

Appendix 2

Framework of Questions for Artist Interviews

Part One – Your Work and Influences

1. When did you first start using plastic within your work?
2. How did you first discover them, during a formal training or independent experimenting? Was it premeditated or were the materials those available?
3. What do plastics mean or imply in your work? Do you choose the material to fit the design aim or is the material conveying a message in itself?
4. Which plastics do you use? Which plastics did you start experimenting with and why? What were the qualities of your chosen materials that prompted their selection?
5. What are the influences/ stimuli for developing/ designing your work? E.g. nature, narrative, social context, other jewellers, art, fashion? How do you see your work in the context of other work being produced? Is it radical or unique, for example?
6. How do you work with the plastics, what are your manufacturing methods?
7. Why do you choose these practices? Are plastics easy to work with? How have you overcome any problems encountered when working with plastics?
8. Which other materials do you combine with plastics and why?
9. Do you still regularly use plastic materials, and if not, why have you stopped selecting them for your work?

Part Two – Attitudes Towards Materials, What is Jewellery?

10. Is there a hierarchy or democracy amongst materials within jewellery making? Precious v. non-precious, metals vs. plastics for example?
11. Are your materials valuable? - in terms of artistic expression, potential, do you impart value to materials through working them? Do plastics have little intrinsic value? Is a piece of jewellery greater than the sum of its parts?
12. Is the idea valuable?
13. Do you feel value of your work changes over time? E.g. Historical reflection, collectability, association with your name?
14. Are plastics denigrated generally in society and/or, in jewellery making or are plastics viewed as serious artistic materials? Have the attitudes of jewellers and consumers towards materials changed at all in the time you have been studying and working?
15. Is jewellery subject to fashion?
16. Would the unfavourable attitudes of consumers towards your materials influence a change in your work?
17. Is wearability an important concept? Would the jewellery just be an inanimate object otherwise and does it matter? How crucial is the body/ persona of the wearer in relation to your jewellery, to what extent do you design with the body in mind?
18. How do you wish your work to be represented in photographs? How do you use photographs to represent your jewellery? Is the jewellery worn? What other features do you wish to portray in photographing your work? Can you use it to project or create an atmosphere or concept which is important to you? Does jewellery look better in photography?
19. Who do you make your jewellery for? How do you sell your work? Is it worn and/or collected? Which reflects your aims most accurately i.e. should it be worn?

Part Three – Longevity, What Does it Mean to You?

20. Is jewellery meant to last?

21. Is the longevity of your work a priority for you? How long should your work last? Would you like to see your work become heirlooms? Is your work about now?

22. How and to what extent do you research the materials you use in terms of working properties and longevity? Working techniques, to what extent do these affect the stability of your work?

23. Can you define longevity? Should longevity be on a sliding scale according to the circumstance, i.e. in a museum environment should longevity be longer?

24. Can you define ephemeral?

Part Four – Collecting and Conservation

25. How important is the interpretation of your work important for collecting, wearing, historical reflection? How appropriate is it that your jewellery can be open to interpretation by others?

26. If the aesthetics/ working properties of your work changed through deterioration of the form and/or materials would it be a dilemma for you? Or if it does not reflect your original aims any longer, should the work cease to be experienced or seen? If a changed appearance led to a reinterpretation of your work, would it be a problem?

27. [for jewellers who use inherently unstable materials – is the decaying process part of the premeditated cycle of the work or an unavoidable consequence for the future?]

28. Should your jewellery be preserved for the long-term future, would this reflect or contradict your aims? Should work about now be preserved for eternity? (Yours and the work of others within collections)

29. Have you had any discussions or communication about the preservation of your work or dealings with a conservator? Is conservation advice given with your work when sold or donated?

30. Would conservation advice about materials be of benefit to you? [Or would it hinder artistic development?] How could this information help your work?

31. Can your work be reproduced or replicated; can elements be replaced should they deteriorate? Would replication of components affect the totality of the work?

32. Does the jewellery cease to be your concern once it has left your side? Should decisions regarding display and future of your jewellery be entirely the concern of other professions? How important is the future of your work to you?

33. To what extent should the convictions and beliefs of jewellers be reflected within public and private collections?

34. Do museum collections represent jewellery adequately?

Appendix 3

Matrix of the Mechanical Properties of some Plastics used for Artist Jewellery

The following table presents some published mechanical properties of some semi-synthetic and fully synthetic plastic materials used in the creation of artist jewellery. The information is presented as an adjunct to chapter 3 where the properties of three of these plastic materials are summarised, poly (methyl methacrylate), nylon and unsaturated polyester resin. The data does not directly translate into design parameters, however, but it does give an idea of the characteristics of a material. Also it shows how it may behave in comparison with other materials as a means to demonstrate some differences and general similarities between them, as highlighted in the text. The inclusion of additional plastics to those presented in chapter 3, within the table, draws a wider comparison of plastics that have and are being exploited by artist jewellers, and that space did not permit to discuss in detail.

The glossary preceding the table defines some of the categories listed in the matrix and some of the properties, terms and characteristics used with plastics and referred to in chapter 2 in particular. The glossary is aimed at a general reader. The information for both the glossary and matrix are taken from these references.¹

¹ Billmeyer, Fred, Textbook of Polymer Science, (New York: Wiley-Interscience, 1971)
 Brent Strong, A. Plastics Materials and Processing, (New Jersey: Prentice Hall, 2000)
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 Engel, Lothar. Klingele, Hermann. Ehrenstein, Gottfried, W. & Schaper, Helmut, An Atlas of Polymer Damage Surface Examination by Scanning Electron Microscope, Trans. M. S. Welling. (London: Wolfe Publishing Ltd, 1981)
 Nelson, W. E. Nylon Plastics Technology, (London: Newnes-Butterworths, 1976)
Working of Plastics, Organisation for Economic Co-operation and Development, n.d.
 Waentig, Friederike. Plastics in Art. (Petersberg, Michael Imhof Verlag, 2008)

Glossary - Defining the Principles of Mechanical Properties of Materials

Amorphous

Solids that are not crystalline and have no long range order in its lattice, meaning the macromolecules are tangled up in an unordered fashion.

Ball indentation hardness

A method for testing the hardness of thermoplastics. It is calculated by dividing an applied load by the surface area of the impression that is present underneath a ball after thirty seconds at a given load.

Crystalline

Having an ordered or regular arrangement of atoms within the structure. The atoms, therefore, have a definite relationship to one another.

Elasticity (elastic modulus)

The ability of a material to return to its original shape and size on removal of external forces. Plasticity is the property that is permanently deformed by a force without breaking. When a material is elongated the elongation is directly proportional to the force. When the elastic limit is reached the material becomes plastic and no longer returns to its original length when the force is removed.

Within the limit of proportionality, (below the elastic limit) the extension of a material is proportional to the applied force. It follows that the limit of proportionality of a material, the strain produced is directly proportional to the stress producing it.

Stress = (a constant) x strain

The constant of proportionality is called Young's modulus of elasticity E . The value of E is determined from the straight line portion of a stress strain graph. $E = \text{stress} / \text{strain}$

A material having a large value of Young's Modulus is considered to have a high value of material stiffness. $\text{Stiffness} = \text{force} / \text{extension}$

Young's modulus is a measure of the strength of a material. The stress on a material is equal to the force applied per unit area, the strain is equal to the

extension per unit length. Young's modulus only holds in the limit of small, elastic deformations. It refers to longitudinal strain.

Elastomer

A natural or synthetic rubber which is able to undergo deformation when a force is applied and regain its original shape when the force is removed.

Elongation

Increase in length caused by a tensile force and expressed numerically as a fraction or percentage of the initial length. The deformation is in the direction of load caused by a tensile force. Elongation may be measured at any specified load or at the breaking load.

Filler

A solid material added to a synthetic resin or rubber to modify its physical properties or to dilute it to reduce cost. Most often fillers are in powder or fibrous form.

Glass transition temperature

The temperature below which an amorphous material is a glassy solid and above which it is a viscous liquid

Hardness

Measure of a material's resistance to localized plastic deformation. Most hardness tests involve indentation, but hardness may be reported as resistance to scratching (file test), or rebound of a projectile bounced off the material (scleroscope hardness).

Initiator

A chemical added to help start a chemical reaction such as polymerisation.

Macromolecules

Molecules with very large numbers of atoms. All polymers are macromolecules.

Melting point (melting range)

The point at which the crystalline structure (arrangement of molecules) breaks down and the substance becomes fluid.

Monomer

A building block for a polymer. Monomers are basic molecules which are joined by polymerisation to create polymers.

Polymer

A substance with large molecules comprising repeated units or monomers.

Polymerisation

A chemical reaction by which molecules (monomers) join together to create a polymer.

Specific gravity

Specific Gravity gives a comparison of weight between materials and is the ratio of the density of a material to the density of water. The density of water is about 1 gram per cubic centimeter (g/cc). Materials which are lighter than water (specific gravity less than 1.0) will float. Most materials have specific gravities exceeding 1.0, which means they are heavier than water and will sink. A ceramic slurry with a specific gravity of 1.8 is thus 1.8 times heavier than water.

Synthesis

The formation of chemical compounds from individual components or more simple chemicals.

Tensile strength

The measure of a material's ability to withstand a tensile or pulling stress without rupture. The ultimate tensile strength is calculated from the maximum load applied during the test divided by the original cross-sectional area. Tensile strength is commonly expressed as pounds (or tons) per square inch of original cross section.

Thermoset

A resin that when hardened by heat or chemical means becomes permanently hard and rigid with the polymer chains binding to each other via cross-links. On re-heating the resin does not soften until its decomposition temperature.

Thermoplastic

A polymer capable of being repeatedly softened by heating and which regains hardness on cooling.

Unsaturated

Containing multiple (double or triple) bonds in its structure. Unsaturated compounds can undergo addition reactions.

A guide chart of the approximate physical and visual properties of important polymers in artist jewellery

	Cellulose acetate	Nylon 6,6	Nylon 6	PVC plasticised	PVC rigid	Poly methyl methacrylate	Polypropylene	Unsaturated polyester resin♦
Optical properties								
Natural colour and colour possibilities	Colourless All colours	Colourless/ milky Most colours	Colourless/ milky Most colours	Colourless to light red, all colours	Colourless All colours	Colourless All colours	Milky All colours	Colourless Most colours
Clarity	transparent	Transparent to opaque	Transparent to opaque	transparent	transparent	transparent	opaque	transparent
Mechanical properties								
Density g/cm ³	1.3	1.14	1.13	1.25	1.38	1.18	0.9	1.2
Tensile strength N/cm ²	38	77/84	70/85	10/25	50/75	50/77	21/37	30
Elongation at break %	10/80	150/300	200/300	170/400	10/50	2/10	200/600	0.6/1.2
Elastic modulus N/mm ²	2200	2000	1400	-	1000/3500	2700/3200	1100/1300	14000/20000
Ball indentation hardness 10sec N/mm ²	50	100	75	-	75/155	180/200	36/70	240
Thermal properties								
Softening range	50/170	N/a	N/a	105-120	155-170	60-116	100-150	N/a
Resistance to continuous heat	60-100	80-120	80-120	40-60	60-80	75	70-80	N/a
Chemical resistance								
Effect of Acids Strong Weak	Strong slight	Strong strong	Strong strong	Slight Very slight	Strong strong	Strong slight	Slight Very slight	N/a slight
Effect of Alkalis Strong Weak	Strong slight	Strong slight	Strong slight	Slight Very slight	Strong strong	Strong slight	Very slight Very slight	slight
Effect of organic solvents Soluble in	ketones, ester	conc. Mineral acids, phenols	conc. Mineral acids, phenols	acetone, tetrahydrofuran e, dioxane	acetone, tetrahydrofuran e, dioxane	ester, ketones, ether, gasoline	no good solvent known	
Resists	water, aliphatics, aromatics, ethers	nearly all stock solvents	nearly all stock solvents	nearly all stock solvents	nearly all stock solvents	petroleum, oils, aliphatic hydrocarbons	alcohols	

♦ Polylite 32030 Series Clear Casting Resins, manufactured by Reichhold Chemicals Inc. supplied in the UK by Alec Tiranti Ltd, 27 Warren Street, London, W1T 5NB, UK

Appendix 4**Conservation Report, Caroline Broadhead, *Grid Armpiece*, 1981**



TREATMENT REPORT:	GRID ARMPIECE BY CAROLINE BROADHEAD
TCC Reference:	3032
Client Reference:	J29

INTRODUCTION

Grid Armpiece was treated at the Textile Conservation Centre with a view to reinstating its artistic intent. Treatment was undertaken by Cordelia Rogerson, Lecturer, and is related to her PhD research into the conservation of artist jewellery created from plastics.

ATTRIBUTION

Grid Armpiece was created by the artist jeweller Caroline Broadhead in 1981 and who is a significant figure in the so called 'New Jewellery' movement of the 1970s and 1980s. During this period, artist jewellers challenged the conventions of the established and dominant craft based jewellery profession, who primarily use precious materials, by using a range of non-precious materials and presenting their jewellery as artworks with a conceptual as well as functional remit.

PROVENANCE

Grid Armpiece was purchased for the International Contemporary Jewellery Collection, Middlesbrough Institute of Modern Art (mima), formerly Cleveland Craft Centre, where it has resided since the early 1980s. The exact date of purchase is unknown but is likely to have coincided with the earliest acquisitions around 1981. Consistent with the mission of the collection in its infancy, *Grid Armpiece* was used for teaching and handling purposes. Images within mima's archive demonstrate that it has been worn in the past.

DESCRIPTION

Grid Armpiece is constructed as a flexible square grid and comprises four nylon strips, presumably cut from a larger sheet, and twelve nylon filaments. The entire structure is dyed a royal blue colour.

The four wider strips form the edges of the square but they do not meet at the corners, instead leaving space where the theoretical corner would finish. The filaments extend between opposite sides of the square, six evenly spaced in each direction, and are woven up and over one another, as in an open plain weave structure. The filaments in one direction are slightly longer than the other. The grid

comprises equally sized square holes 15 mm². Each end of every filament extends through a hole in the strip edges and is secured with a bead of nylon that has been formed at the filament tip through melting.

The construction is such that the filaments extending in either a horizontal or vertical direction, attached to two edge strips, are separate units. These units move independently of each other as far as the woven construction allows. The grid structure is very flexible as a result and the artist intent is to enable the wearer to push their hand through any of the grid holes with the nylon filaments flexing to accommodate. In this way the artist causes the wearer to question how to put the bracelet on.

A mima accession number is painted in black numbers and letters onto the outside edge of one edge strip.

As Grid Armpiece is handmade its does not lie completely flat on a surface but is slightly concave. Each filament and edge strip also has very slightly different dimensions.

Maximum dimensions of Grid Armpiece	(l) 115 mm x (w) 119 mm x (h) 5 mm
Filament length -	longest 120 mm, shortest 113 mm
Filament diameter -	(average) 0.9 mm
Dimensions of edge strips mm	(average) (l) 85 mm x (w) 1 mm x (h) 5 mm

CONDITION

Although the bracelet appears chemically stable and structurally secure, the artist intent was misplaced, hence arguably it was in a poor condition overall.

On close inspection there was a layer of dark coloured surface soiling on all parts of the armpiece, which has probably resulted from past handling.

The painted accession number was very noticeable and disfiguring.

The grid structure was distorted with the most centrally placed filaments curved outwards towards the edges. As a result a much larger hole was present in the centre of the grid instead of evenly shaped square holes, as originally intended. The filaments were permanently positioned like this and although could be flexed back to their intended location, sprung once more to their newer positions readily. Measurements taken with a micrometer revealed that the central dislodged filaments were fractionally thinner and longer in diameter than the others. This suggested that these filaments were stretched slightly beyond their yield point, causing distortion. Furthermore, nylon is known to have memory when placed in one position for a long time. Damage to *Grid Armpiece* was caused some years before and the filaments presumably had memory for their current positions.

The deliberate ambiguity created by the artist was lost since it was obvious how others have worn it. No longer were observers able to question its form to the same degree. This fact was confirmed by the artist during interview conducted by Cordelia Rogerson, 25 November 2003.

The damage was mechanical rather than chemical deterioration and the nylon suffered no perceptible loss of flexibility or strength. The damage was most probably caused through handling and wearing. The blue colour appears even and there was no evidence of colour loss.

REQUESTED TREATMENT

To reinstate the artist intent of *Grid Armpiece* to enable accurate interpretation and display in a planned collection show at mima in 2007. To remove the intrusive accession number painted onto the outside edge.

TREATMENT CARRIED OUT

Gird Armpiece was documented and photographed before, during and after treatment.

Materials Identification

Non-destructive testing using Fourier transform infrared (FTIR) was applied to the bracelet to identify its component materials. Both the filaments and wider external strips were confirmed as nylon, with an unidentified co-polymer. Results did not reveal the exact class of nylon.

Surface Cleaning

Tests showed that the paint used for the accession number was readily water soluble and that the blue dye applied to the nylon was fast in water. Cotton wool swabs, slightly dampened with softened water, were used to clean the entire surface of the nylon and to remove the accession number. A surprisingly large quantity of soiling was removed.

Humidification Tests

Nylon is known to respond to humidity, absorbing 6% of its weight in water, becoming plasticised in the process. Initially it was considered that this could assist in the reshaping of the distorted nylon filaments. New nylon filaments were tested by introducing water vapour via a humidity tent and an ultrasonic humidifier whereby the nylon did absorb and then lose approximately 6% of its weight in water. It was indeed confirmed that nylon could be reshaped effectively using this technique and did not outwardly show detrimental effects. The process was not pursued, however, partly because the reshaping already in progress proved effective (see below) and because caution was applied for this unfamiliar technique and its long term effects.

The treatment does remain a possibility in the future if necessary for *Grid Armpiece* and for other nylon artefacts.

Reshaping

In order to realign the distorted filaments, as far as possible, a strategy of long term and gentle treatment was undertaken. A Plastazote™ (closed cell cross-linked polyethylene foam) square was cut just slightly larger than *Grid Armpiece*, which was positioned centrally and stainless steel pins placed to hold the filaments in their intended grid positions. Pins were located at the interstices of the woven structure where filaments crossed each other and in corners.

The reshaping continued for a period of four months in an environmentally stable environment. Periodically the pins were moved and replaced in different positions to ensure all areas were treated equally.

Over time the filaments remained where they had been put and the shape of the original grid re-emerged. The filaments presumably lost the memory of their earlier positions to become straighter again.

Storage Mount

A permanent storage mount was constructed along similar lines to the reshaping mount. A Plastazote™ board was cut and eight poly(methyl methacrylate) rods (3 mm in diameter) inserted so that they protrude approximately 15 mm above the surface. These were placed in the corners of *Grid Armpiece*, one at either end of each edge strip. The mechanism holds *Grid Armpiece* under very slight tension, enough to encourage the filaments, including the longer ones, to remain straight and in position. It has been placed so that the concave shape, at the centre of the grid, sits rising above the surface of the Plastazote™. Over time this may encourage the shape to become less curved.

A new paper hanging label with the identification label was tied with undyed cotton thread to one edge. The label can be removed when *Grid Armpiece* is required for display. The board was placed in an acid-free cardboard archival quality box.

CONDITION AFTER

Cleaning has improved the overall appearance of *Grid Armpiece* and it looks brighter in colour. The most dramatic improvement, however, is the successful reinstatement of the original grid form and the intent. As some of the central filaments are slightly longer than others total realignment was not possible but the grid can now be interpreted accurately. The overall shape remains slightly concave but over time this may well reduce.

The nylon filaments remain very flexible and strong meaning they can be moved out of their present positions as Broadhead planned, but this is not encouraged, see recommendations below.

RECOMMENDATIONS

Grid Armpiece should remain on its storage mount and in its box, whenever it is not on display. The box will further protect it from soiling and environmental fluctuations whilst the mount will ensure its shape is retained as far as possible. Handling should be kept to a minimum to reduce the risk of soiling and gloves should always be worn. When being examined it should remain on the mount where possible but if it is removed it should be replaced in the same configuration as soon as possible.

Grid Armpiece should **never** be worn or tried on. Such a process will distort the filaments again, and may stretch them further, meaning that their shape may never be regained to the same degree.

Storage conditions should be environmentally stable with as few fluctuations in temperature and humidity as possible, as determined by the conditions already present in the storage areas. All light should be excluded. The dye and the nylon are both very light sensitive; the nylon may become yellow and brittle losing its

flexibility and the dye may fade. The textile dyes used by Caroline Broadhead have proved unstable on other of her nylon works in the mima and other collections.

On display light levels should be from a cool source and kept as low as practicable with all UV light excluded. Bearing in mind its light sensitivity the duration of display and light levels are most effectively determined by lux hours per annum in accordance with the risk assessments determined by mima, but the fewer the better. Temperature and humidity on display should be as stable as possible within RH 40-60% range.

When displayed *Grid Armpiece* would benefit from a similar arrangement to its storage mount to ensure it keeps its shape. Very delicate tension applied from the corners will encourage the slightly longer filaments to remain straight. Conservation grade materials should always be used for the mount and any case.

CORDELIA ROGERSON

Lecturer

17 May 2007

Appendix 5

Printout of an Online Exhibition by The Crafts Council, June 2009

Object in Focus: Chain & Red Chain by Christoph Zellweger

Available at:

<http://www.craftscouncil.org.uk/collection-and-exhibitions/exhibitions/online-exhibitions/view/object-in-focus-chain-amp-red-by-christoph-zellweger/introduction>

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Chain and Red Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009

Object in Focus: Chain & Red Chain by Christoph Zellweger

In 1994, two astonishing items of jewellery were made by the Swiss-born jewellery maker Christoph Zellweger: Chain and Red Chain. They were exhibited together at the 1994 Work/Ethics exhibition in Sheffield, but today reside in two different institutions. Chain was acquired by the Crafts Council in 1995; Red Chain, purchased for the Cleveland Crafts Centre's collection in 1998, is now housed at mima, Middlesbrough.

The sculptural [pieces](#) are similar in style and configuration (both are 270cm long), but there are marked differences. Chain has had a deliberately decayed appearance from the start, with oxidised metal parts and yellowed latex, but Red Chain was notable for its shiny new aesthetic, boasting gleaming steel elements and brilliant red latex tubes.

Sadly, by 2009, both are in a sad state of disrepair, with Chain close to total collapse. The metal components are still largely intact, but the latex has deteriorated to such a degree that neither chain can now hang as originally intended.

In their current condition, Chain and Red Chain present a crucial yet fascinating dilemma for the maker, curators and conservators involved, as to how, and if, they should be maintained, considering Zellweger's statement that Chain 'is not intended forever.' Broadly speaking, this case sparks debate about both the ethics and the practicalities of making and collecting jewellery made of such ephemeral materials as rubber. After purchase, what are the possibilities for conservation? Is there ever a case for an artist repairing and even remaking pieces like Chain and Red Chain? These and other questions are raised in three interviews: with the curator (James Beighton, mima); with the conservator (Cordelia Rogerson, Modern Materials Specialist Conservator, The British Library); and with the maker (Zellweger himself) in the hope of finding a solution for these most mysterious and beautiful works. Amanda Fielding, Curator at the Crafts Council at the time of its acquisition, contributes an additional account of the nature of Chain.

All interviews conducted by Sarah Brownlee.

This exhibition has been developed in partnership with mima.

mima's Red Chain was purchased with assistance from the V&A Purchase Grant Fund in 1998.

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Chain and Red Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009



Chain by Christoph Zellweger
By Amanda Fielding, Curator at the Crafts Council, 1989 – 2007

In 1994 the Ruskin Gallery (now in the Millennium Gallery, Sheffield) staged *Work/Ethics*, a group exhibition in which Christoph Zellweger showed a pair of remarkable large-scale chains, each fashioned from hand-fabricated latex and cast steel, and presented as objects hanging in space. There the similarities ended however: Chain's damaged, oxidised metal elements and sickly yellow latex evoked the ravages of time and patina of age, whereas Red Chain's vibrantly coloured rubber and metallic brilliance suggested it was made only yesterday.

In Chain, Zellweger's aim is to 'create an image of decay and mysterious beauty such as we often find in the remains of the past.' He deliberately treats the work as a found object, a fictional archaeological artefact to be dug up sometime in the future, somewhere in the West. Zellweger is emphatic that this 'fake' has nothing to do with any romantic or nostalgic view of the past, but rather that it signifies his concern for the decline of the industrialised landscape. With its fractured metal flowers or seed heads on stems of cast screw-threads and electrical elements, Chain also hints at the blurring of nature and technology in the artist's vision of the future.

From the outset, Chain was shrouded in ambiguity. Zellweger intended it to function both as jewellery – by virtue of someone identifying with his ideas and wanting to wear it – and as an object that was fiercely independent of the body. At 270 cm in length, it was shown suspended from above and trailing snake-like along a plinth. As an outstanding example of new thinking in conceptual jewellery, it quickly attracted the attention of the Crafts Council's Purchasing Committee (which had always supported progressive craft), and was acquired in the knowledge that, in Zellweger's words, 'It was not intended forever.'

By choosing latex rubber, Zellweger had, quite literally, produced an image of decay: as predicted, six or seven years later the rubber started to show colour changes and other signs of degradation. As then curator of the Collection, I initiated a series of conversations to mark the first stage of collaboration between artist, curator and conservator to establish a realistic strategy for Chain that considers intervention, storage and display.

What were Zellweger's thoughts about Chain now that its identity and function were in flux? Clearly it was too fragile to be suspended from the ceiling or indeed worn as originally intended. A number of options were discussed, such as replacing perished parts with new latex, binding weak areas with wire, or leaving well alone. At that time it was agreed that Zellweger would not take any immediate steps to 'rescue' the work. Speculating on how Chain might be displayed in the future, we discussed the possibility of presenting it in a new, horizontal configuration in a shallow case at floor level. This appeared an attractive solution, in step with the museum display of archaeological finds, and with Zellweger's original concept for the work as excavated object.

A further important conversation was initiated with Brenda Keneghan, a polymer scientist at the Victoria and Albert Museum, who examined Chain (and its companion piece Red Chain, now in the mima collection), and gave additional preventive conservation guidelines for Chain while in storage.



Interview with Christoph Zellweger Jewellery-maker

When you were making Chain and Red Chain did you realise how quickly the pieces would deteriorate?

I tested the latex, exposing it to direct sunlight, and within a month or two it got darker, already showing signs that it would become brittle, so I accepted that this would happen. Not only did I accept it, but I was happy about it, because deterioration was at the core of the idea. If you look at my works in polystyrene, you see a similar idea. These pieces were about decay, and about giving presence to something that otherwise would not last. Of course I'm aware that certain materials like latex or polystyrene, if worn on the body, will have a relatively short life, but if you want to make a statement about value then let it be transient. Back in 1994 I thought it was important to talk about things that went beyond material value. In a time where we strive to live forever I deliberately resisted making something that would last but the statement itself is meant forever.

How did you feel when Chain and Red Chain were withdrawn from a touring exhibition, out of concern over their condition?

I feel that this action really missed the point of the work. It was the right decision for a curator, but it ignored the artistic intention. I was consulted after the event, at which point I stated that it was not in my interest for them to be withdrawn. I understand that museums have an interest in preserving their acquisitions, because they are owned by the public, but I like the idea that there is a decaying piece in a museum and someone spots it and says 'Hey, this is decaying, we should tell them,' – and then realises maybe it is supposed to be like this. This makes it a more interesting piece. We accept decay in museums housing old artefacts but in an exhibition of new work we cannot accept it.

Does this mean you are opposed to the idea of repairing or remaking Chain and Red Chain?

No, because if you think of a normal necklace, it is worn and it breaks and needs to be made functional again. And now I think it would be brave to commission a repair of the pieces or an update. If I did it again I would make reference to my original intention, but bring it into our time. My thinking moves on.

But wasn't the point to create an image of decay?

Yes, and there are images of the original piece, but my work has an element of wearability, and I think it would be interesting to get it back to a state where it's complete. I find it fascinating to think of moving from one state of originality to another state of originality or authenticity. But I suppose collectors aren't prepared for that. I don't think this has happened before, and I am not aware of a situation where a piece in a public collection has been re-visited by an artist. I think this could be corrected. It's very interesting for a curator and an artist to go in this direction.

And will you continue to use whatever materials are appropriate at the time of making – perishable or not?

Yes, I think materials have a particular meaning at a particular time. Material itself has a message. If I use a new material and I know it will decay or it could decay I use it more or less consciously.

What materials are you working with currently?

I'm going to be working with reflective surfaces, using mirror as a metaphor. It will not be metal necessarily, but a mirrored surface. I'm also experimenting with rubber-like materials. Whatever I do is a reflection of the bigger picture of what I feel society is doing.

What can be learnt from this debate?

I'm interested in the philosophical challenge we're now facing. I see an opportunity to challenge the status quo within the practice of

curating and of conserving work and making it publicly accessible. I want to get into a discussion about the nature of work made, and the fact that we cannot treat all artefacts that are collected in the same way. Beyond judging the artefact itself for what it is -- we have to look at the conceptual intention of the author. Thus, if I make work that is about decay, then it should be shown and documented in this way, and if another work is about perfection and preserving then it should be kept exactly as it was when it was new. I think institutions need to now accommodate difference and react to work more specifically. Some pieces start telling their full story when exposed to the course of time.

Visit www.christophzellweger.com



**Interview with Cordelia Rogerson
Modern Materials Specialist Conservator, the British Library**

When were you first confronted with the problem of profound degradation in contemporary jewellery?

The first time the issue really came to my attention was in the case of Zellweger's Chain pieces. When I became interested in jewellery I was aware that there were problems of this nature, but no one had looked at them in any detail. Chain was the first time a significant problem had been discussed within the jewellery discipline, but as my research in this field progressed I came across other examples where there had been catastrophic degradation that hadn't been adequately noted.

Zellweger has stated that he didn't intend Chain to last forever. Doesn't this negate the role of the conservator?

Theoretically it could. But we know we don't have a divine right to intervene with every object, and that maybe there are instances where conservation just isn't required. We conservators take our work seriously, but we have to accept that it's not always appropriate to the intention or meaning of an object. However, if we'd addressed this particular situation earlier we could have taken measures to slow down the degradation, which might have been appropriate.

Have you come across cases similar to that of Chain and Red Chain?

Jivan Astfalck created a conceptual piece of jewellery (Tacita Dentata, 1999) made up of bites of apple dipped in resin, alluding to the story of Snow White. She intended that while the apple decayed the resin would stay intact, as a metaphor for life and death, but of course the resin started to collapse as well. But she decided that its further deterioration only served to emphasise her original point. If anything it simply continued the story and so she was happy. As a conservator you could be quite cynical about that and say she's just adapted her story to suit the situation, but on a pragmatic level there are few options as the degradation cannot be reversed. Our role is then to apply preventative measures.

Is there a case for conservators being consulted at the point of acquisition of potentially risky items that contain ephemeral materials?

I think it would be helpful to have a greater dialogue between curator, artist and conservator from the beginning. I know that James Beighton at mima and the Crafts Council have a selection committee and I think it would make sense to have a conservator represented -- not to warn against purchasing risky items, but to highlight issues that might arise. This way they can make a conscious decision to buy something that might only survive a few years, while putting measures in place that will give a decent life to that object.

What part could you play in the conservation of Chain and Red Chain at this stage?

Both pieces have degraded to such an extent that there is very little I can do. You can't reverse the degradation of the latex. What you can do is look at their ongoing storage and environment, and try to slow down further deterioration, and this means addressing everything from levels of light exposure through to temperature, humidity and air quality. Removing oxygen from the environment slows down the degradation of rubber and latex. In terms of storage I would suggest opening them out as much as possible without causing any more damage, and creating storage facilities that they can also be displayed in.

Is there a line a conservator should draw, in terms of involvement, in cases like this?

If, for example, a curator asked me to remake the latex I would say absolutely no. A conservator's job is to preserve the integrity of an object. We are not trying to restore -- restoration is about taking an object back to its original condition and appearance. We take what is left of an artefact, and preserve and stabilise it. Taking away those degraded rubber tubes and replacing them wouldn't be true to the original object and wouldn't be considered ethical from a conservator's point of view.

Is there a case for conservators advising artists on what materials to use?

I think it would be very wrong for a conservator to try and prevent artists from using certain materials. Preventing exciting work like this from occurring will do the discipline a disservice. Having said that, from a practical point of view I think artists do need to learn more about their materials, so they're not surprised by the consequences. If they are aware of the outcome, and it is part of their intent, that's fine. What we would then need to do is find effective ways of presenting and documenting work that we know will eventually disappear.



**Interview with James Beighton
Curator of Craft, mima**

What is Christoph Zellweger's standing in contemporary jewellery design?

Zellweger is one of several important figures graduating from the Royal College of Art at the same time, all engaged in a more conceptual manner than their peers. What makes Zellweger really stand out for me is his interest in the body generally -- not just the relationship between the jewel and the body and the way a jewel sits on the body, which many other jewellers have taken into consideration, but a more intimate relationship looking at the interiority of the body and how these abject elements can be translated to what's worn on the outside. It makes him intriguing conceptually and visually, and there's an added layer of interest for museums when you consider that, just like the human body, his own work will start to decay. It brings a very human element to bear on collecting.

Why are Chain and Red Chain such important pieces?

They were acquired at a relatively early stage in the public's consciousness of his work, and they somehow exist both as independent objects and also as a pair, even though they are lodged in these two different institutions. What makes them important now is the condition

that they're in, and how it forces museums to confront the particular issue that Christoph raises – how does a museum cope with a piece that is inherently and conceptually perishable?

What is mima's acquisition policy?

We have a responsibility to represent the best of contemporary practice in jewellery-making, among the other items we collect, and if that best practice happens to include the work of artists working with materials that are perishable we have a responsibility to collect that too. If we make a policy of saying we can't collect something because it's not made of a stable material, this could potentially impact on what artists choose to make. We'd end up collecting work in gold and diamonds, which are immutable – and that's what the New Jewellery movement was against and that's why we started collecting this work in the first place. Our decision to collect perishable objects is a logical progression of our decision to collect contemporary work.

Are there other items in that collection that raise similar issues to that of Chain and Red Chain?

Wearable Instrument, a 1998 piece by Sigurd Bronger [a beautiful but absurd brooch consisting of a natural sponge set on a gold-plated brass plinth –] presents a similar dilemma. The sponge will eventually disintegrate leaving the plinth intact, but because Bronger nominated this sponge owing to its very particular qualities, the solution can't be as simple as just replacing the sponge. Is there a solution for this piece at all or do we have to accept that part of it will simply disappear? Is it possible to show it just as a plinth with sponge dust on the floor and still make a point?

Do you know what Zellweger wants to happen to Chain and Red Chain?

No, but I know we both want to approach this situation as an interesting problem we can look at together. I'm not hung up on the idea of restoring Red Chain back to its original state – I'm interested to see if we can come up with a solution and if that can lead to a long-term and repeatable set of solutions. Will we have to write these works off? Could we use them as they are, to illustrate the discussion we're having now? Or do we turn them into completely different works? These are all possibilities that need to be explored.

Would you be disappointed if Zellweger opted to leave the works to deteriorate further?

My disappointment would be that not enough had been made of them in their lifetime, and that there wasn't enough awareness that this was going to happen to the objects. The fact of their deterioration could have been incorporated into strategies for displaying the objects. We could have made their eventual decay a fundamental part of what we communicated about them.

Some of Zellweger's work is made of polystyrene. Would you consider adding such a high-risk item to the collection?

I would consider it, yes. The fact that something is going to perish in 10 years rather than 20 doesn't seem to me to be that relevant. Once you've made the mental leap as a collector that you're acquiring something with a short lifespan, you must then just focus your attention on what you're going to do with it and make the most of it while you have it.

I: See 'Christoph's Laboratory', essay by Martina Margetts in Foreign Bodies: Christoph Zellweger, Monica Gaspar, Actar, 2006, p.6



Chain by Christoph Zellweger, 1994. Photo: Edward Barber, 1996



Chain by Christoph Zellweger, 1994. Photo: Christoph Zellweger, 1995



Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009



Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009



Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009



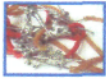
Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009



Red Chain in current condition. Photographed at the Crafts Council in 2009.



• Red Chain in current condition. Photographed at the Crafts Council in 2009.



• Red Chain by Christoph Zellweger, 1994. Photo: Christoph Zellweger, 1995



• Red Chain in current condition. Photographed at the Crafts Council in 2009.



• Red Chain by Christoph Zellweger, 1994. Photo: John Hammond, 2009



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Object in Focus: Chain & Red Chain by Christoph Zellweger

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Our curators discuss this object:

Published 23 Jun 2009 by Fiona Moorhead

Intro:

In this section James Beighton, Cordelia Rogerson and Christoph Zellweger debate the future of Chain and Red Chain in conversation with Claire West, Director of Programmes, Crafts Council.

Chain is owned by the Crafts Council while Red Chain forms part of mima's collection of contemporary jewellery. Both items have degraded to such an extent that there are question marks over the practicalities and ethics of conserving them. Can a solution be agreed upon by artist, curators and conservators alike that will save them from complete destruction and allow them to be exhibited to the public once again? And how could this have an impact on how museums treat and document other craft objects made with ephemeral materials from now on?

The debate:

James: I'm interested to see what approach we should take to this work and other work in the future, looking at it from the different perspectives of conservation practice, artistic practice and curatorial practice. I'm also interested to find out if there is any difference to be discerned between the genre we're working in – craft and jewellery – and that of the fine art genre when it comes to dealing with this kind of work. The art world already has a ready-made set of solutions to these problems.

Cordelia: I wouldn't say there were ready-made solutions but I think there are precedents. The problem is that we've never addressed this issue within the jewellery and crafts discipline before.

Claire: The value of such a partnership exercise as this is that such issues are raised and openly queried. It is important for the crafts sector to consider other models of acquisition and collection care – such as the visual arts sector, to update and develop its professional practice.

James: This discussion puts the debate on record, which is important.

Cordelia: One of the key points is that communication is absolutely key. The situation we're in now has generated a discussion but a discussion like this should occur before a piece is either created or bought.

Solutions and possibilities for Chain and Red Chain

James: To recap, Red Chain (which we at mima own) and Chain were withdrawn from an exhibition some years ago as it was believed they were too damaged (degraded) to exhibit. But I am not willing to accept that they should now sit in boxes in the stores for all eternity. I think we should find a set of options to enable them to continue to have a life within the museums.

Christoph: The decision to remove them from the exhibition was exactly contrary to my intention. I wanted these pieces to be on display in whatever state they were in because that's how nature goes – things decay.

James: Which comes back to the issue of communication. And because there are two works – one at mima and one at the Crafts Council – it seems like a good opportunity for the two organisations to come together to develop this debate.

Claire: I think there are effective ways of presenting and documenting work that we know will eventually disappear. As we have discussed, this is an issue that contemporary art has dealt with and there are therefore models of practice already in existence. The Crafts Council ensures through its own Collection Management plan that there is an effective conservation programme and these works by Christoph form part of this programme, but ultimately the latex parts of the chains will disintegrate. There is, therefore, a need to further consider how to formalise the documentation of works that are purchased with the understanding that they will perish.

Christoph: When I made the piece I thought okay, if I keep it it'll fall apart. If it's never sold it'll fall apart. If it is sold to a private collector it will also, at some point, fall apart, but if it's bought by an institution, then there will be some big questions. When the Crafts Council bought the piece I was aware that it could cause problems and I mentioned this immediately. The Crafts Council stated that they expected this decay to occur at some point and I thought that acknowledgement was great.

Claire: The Crafts Council Collection's criteria for acquisition states that the work should demonstrate excellence in the skills of making, handling of materials and innovation of ideas; work that marks an important stage in the development of an individual, or demonstrates new areas of activity in a particular craft. But, if applicable, ethical issues of restoration, conservation and intervention must be agreed with the maker and documented at the point of purchase.

James: Our remit is to buy work that is an expression of the ideas and the concept of the artist and the Chain pieces, as with so much of your work, are about inevitable decay; the relationship with the human body and the fact that it will simply disintegrate. Now that's a very attractive concept for you (Christoph) but it's something that some museums still find it hard to understand.

Cordelia: The problem is that work such as this challenges a museum's traditional remit.

James: It unsettles curatorial practice in a very positive way because on the one hand, as a curator, I'm here to acknowledge and support the ideas of the artist but as a collections curator I have a responsibility to preserve a piece.

Cordelia: It's a challenge for conservators as well because we normally work to conserve something back to its original state. The idea that we should allow something to decay raises the same challenges for us as for James.

Christoph: I did not expect there to be such a challenge. Ephemeral materials have been used in fine art before.

Cordelia: But it's new to the craft discipline.

Christoph: Why should the way the crafts sector deals with my work be any different to how the art world deals with artwork that will decay?

Cordelia: I think it's about perception. As you have said, "we accept decay in museums housing old artefacts but in an exhibition of new work we cannot accept it." Is the issue here that we're talking about jewellery and jewellery is traditionally something that embellishes the wearer?

Christoph: Most jewellery we find from the past has decayed in some way.

Cordelia: But other people might find it unsettling to see a relatively new piece that's so degraded.

Christoph: If I make a piece that looks decayed, then this is intended. If the work I make is shiny and looks perfect then I expect it to be kept in such as state. If I want to make something that is forever I make sure that I use materials that will last forever and I create the circumstances in which they can be kept forever in a museum or by a collector.

Claire: Contemporary craft is constantly shifting and refocusing – makers are using new materials and new production methods including new technologies, to produce a broader spectrum of work and possibilities. The craft sector needs to act fast and consider how these important shifts in practice and their legacy are captured.

James: So we've said that there are solutions to deal with these issues in fine art and design but perhaps we should be clear about what those solutions might be. We're working with two real possibilities here. One would be just to leave it and simply let it disintegrate...

Christoph: Leaving it also means it can be stretched out. Its natural position was hanging from the ceiling but it was kept in a box. I would be happy to see it hanging again even with just one part hanging up and the other part broken on the floor. This would be a real challenge – for the audience too because they will understand that this is the process of decay.

James: But once the rubber elements have disappeared, you'll be left with two piles of beads. What can an audience looking at your work in a 100 years time understand about the decaying process from that?

Christoph: I think it would be a challenge for a museum curator to approach it in such a way. I think a pile of beads would communicate something close to my original intention. It would be brave of you to slip into my mindset.

Cordelia: James, do you feel that your role as a curator should absolutely follow what an artist directs because from a conservation point of view,

the idea of displaying an artwork that is essentially breaking makes me very uncomfortable. Do we have to follow what the artist wants if you feel that's not going to fulfil the remit of your collection?

James: The reason a curator would buy work like Christoph's is not because we just like the look of it but because we find something of value in the concept and if the piece is meant to decay then it seems actually you'd be doing damage to it in trying to prevent that decay.

Christoph: For me that already happened when it was taken out of the exhibition for the first time. And the second time when it was decided to keep them in boxes.

Cordelia: Are you saying that you're absolutely comfortable with the idea that if it's moved to display it in a certain way it might break?

Christoph: Yes. I was amused by the footage of everyone touching it with gloves. It was not my intention that it should ever be touched with gloves. It has a life and life creates a patina.

Cordelia: This is what happens to every piece that goes into a museum – it goes from being something that is worn to something that is never touched. It's not possible to say that we'll handle this particular piece in a certain way but handle the other 99% of the collection as we're supposed to.

Christoph: I think that's what one should consider.

Cordelia: In reality this might be impractical.

James: Ultimately, I have to consider the ability of an audience to appreciate and interpret the idea that Christoph has put forward, which is about the process of something degrading under natural circumstances. I have a responsibility to interpret those ideas for an audience and I don't think the object breaking will do that justice.

Christoph: Again a situation where you have a piece here and a piece there, just loosely connected would be absolutely appropriate...

Cordelia: Would you need contextual information to accompany this?

Christoph: Well, I have repeatedly said that the fact that we have images of them in their original state is great and that's why I'm not worried.

James: Another point to consider is Christoph's suggestion that both institutions could commission a repair of the pieces.

Christoph: I don't really suggest that you should commission me, but I thought it would be an interesting thought that a piece which had a wearable lifespan moves into another lifespan where it decays and a third when you can look at it again with new eyes and bring it into our time. In the applied arts in particular there is a long history of re-use, remaking and reinterpreting pieces.

Claire: But we know that you made the work with the understanding that they would disintegrate. It would therefore seem inappropriate to consider either their repair or re-commission.

Cordelia: Christoph, are you suggesting remaking the latex tubing or the entire thing?

Christoph: No, the steel elements are forever. It's only the latex that has decayed. I'm not really suggesting a repair but an update.

Cordelia: So you would reflect on the piece as it is now and create something new in response to that? I really like that idea.

James: I think it's a beautiful idea and had the work been under the public gaze and displayed as originally intended I would have been very happy with it. But the fact is that it's been sitting in a box for many years and the public haven't had access to it or had a chance to understand the process of decay. How can you create a piece in reaction to something that has happened in a very controlled environment removed from your original intention?

Christoph: But in theory this is an interesting concept. You would have three stages, which the audience can reflect on: from the images of the piece in its original condition, to how it is now, to a new response.

Cordelia: I like that solution.

Christoph: In fine art this has already happened, when you think about pieces which have been displaced and have been moved from one place to another and been repaired again by conservators and then maybe again corrected by another if they were not happy with the conservation.

James: I'd like to go back to solutions that would be outside of conservation practice to see if they would be appropriate. For example, a piece by Jeff Luke which comprises of rubber bands comes with a printed set of instructions which says that when these rubber bands decay we can get replacements. So as long as rubber bands continue to exist you can preserve the aesthetic intention of the work.

Cordelia: But does Jeff Luke realise that the piece will change considerably over time? Is he trying to retain it exactly how it was or does he just want it replenished and does he accept that it will have a new interpretation inevitably?

James: The important issue for him was the idea of making an object wrapped in elastic bands which disguise the form of the object.

Cordelia: Then his intention was diametrically opposed to that of Christoph who was happy for the decay to occur.

James: Unless you can say that they're both interested in the process of decay? Albeit outside of conservation practice, would it be possible to leave instructions that says the latex needs to look this way and that colour, so that once the decaying process has finished it can start again? Another piece that is perhaps comparable to Christoph's intent, is Clare Twomey's Consciousness Conscience made up of a series of low-fired ceramic tiles that break every time an audience walks on them. They are remade for each exhibition and broken again as the sound of the tiles breaking is important to the work. This suggests to me that the thing to do with your work could be to remake the latex and allow the decaying process to start all over again.

Christoph: I would definitely reject this idea of remaking the latex. I cannot see the point.

James: Because then the process would start over again

Cordelia: But the process has already happened. Are you feeling uncomfortable because the process hasn't been documented? I don't think artists can revisit their work unless they originally intended to revisit it...

Claire: There is certainly a need to further consider how to formalise the documentation of works that are purchased with the understanding that they will perish and how such documentation retains the status of an acquired object for a major Collection.

James: I'm not only talking about Christoph here. I'm looking for a repeatable set of solutions that can be applied to other works.

Christoph: Going forward is the only thing I know, I like the idea of embracing the piece like an old friend and seeing what we can do next. Imagine someone visiting mima in 300 years time, finding the Chain, putting some string through the metal elements to make it come to life again. This to me would be as valid as the piece I originally made. It is brought back to life and creates a new meaning. I love this idea.

James: I think that I could be persuaded by this idea but I'm still interested in the idea of remaking.

Cordelia: But surely this idea can only be valid if it was originally the intention of the artist to remake a piece time and time again?

Claire: No solution is totally unacceptable but the Crafts Council's Collection policy is only to commission work in extraordinary circumstances, so the commissioning of a repair or update would be unusual.

Christoph: I think for me I would like to ask what is the story now for both pieces? What could they be? This is a challenge and this I find exciting. But it has nothing to do with the work of the collector nor the conservator. It's purely artistic and driven by the idea of focussing on the next and the new – finding the truth of the object in the moment.

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**Preserving Jewellery Created from Plastics
and Rubber: Application of Materials &
Interpretation of Objects**

Cordelia Rogerson

**A thesis submitted in partial fulfilment of the
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Volume 2

Appendix 6, Transcripts of Artist Interviews

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Christoph Zellweger (CZ)

9th November 2003

Interviewed by Cordelia Rogerson (CR) at the Oxford home/studio of jeweller Elizabeth Callincos

CR Although you use a lot of different materials in your work you actually use a lot of plastics. Can you tell me why you use them and what they mean to you?

CZ I am a trained goldsmith and this means I have worked with many metals and when I decided to make work that is more about expression I explored the possibilities of materials to express ideas and that therefore opened up other materials next to precious materials and traditional jewellery materials.

CR Did you find you could not be more expressive with metals?

CZ I could, but I found the challenge in using materials that have certain references and I choose materials deliberately because of their associative qualities.

CR Can you give me an example of this?

CZ Polystyrene is an example of a material that is a disregarded material. It is not a material that is called a material because it is the bottom line of all materials because it has no value. I refer to such because it is a non-material, it has no properties except as a packaging material, which is of any value.

CR You are deliberately trying to subvert the idea of value?

CZ Yes of value. This one is very much about value.

CR Do you make polystyrene more valuable by using it?

CZ This work was related to the body, they are called body pieces and this means they are imagined forms that belong to the body [Commodity Chain K22, 1997]. So the forms themselves were throwaway objects because of the material and a material that is only connected with the idea of packaging. Packaging is not a product, it is a side product of a product and is associated with a lot of

negative things like noise. It's too big to get in the bin and people want to get rid of it. When I wanted to make really precious work, not meaning the material precious, but that it is of value then I knew this would be a work that would create disbelief and will have the power and ability to question value. Because they are related to the human body which is constantly in change now because we put all sorts of objects into the body and onto the body which are not traditionally jewellery but actually change a form and the functioning of the body, and I thought ok now the body is becoming a commodity. The body is becoming itself an object which can be designed and challenged and changed and this material was excellent to present that. It was all inside it and I maybe didn't know it exactly when I started, but I felt it somehow so later I made a theory about it. You don't start exactly with an idea but you sense something and you explore further and I don't think you have a concept, which is glass clear.

This material was impossible to work with.

CR But you formed it into quite distinct shape.

CZ Yes, but it is not a direct material, which you can work with, because it needs metal moulds. So each form I had to make a mould and most people don't know that.

CR How did you buy it, from the manufacturer?

CZ You buy a tonne of material in a raw state or you don't do this! So I went to a company and said look can I have a bit and they said yes, but you can't do anything with it. So then I did some research and it took 2 and a half years to make this work. I understood that it is tiny little beads and they are pre-expanded in an industrial process and to a certain size, say 1 mm, and then they are cooled down very rapidly and then they have an expansion of say 5-7 hours. Within this time you have a second expansion period and it reaches its final form. This happens inside the mould and it needs a metal mould, it can't be any other mould because it needs to transfer the heat and vapour because it's a vapour that expands it. I was determined to use this material because of its meaning and significance to my idea. I faced many more problems than I thought.

CR You had to learn a lot of new skills?

CZ Totally. I could not have done this work if I had not been a jeweller and was familiar with material processes.

CR What about your use of silicon tubing?

CZ The tubing is also medical and I looked for a very neutral [coloured] material and also at the same time associates with the clinical.

CR So it relates to your idea of the body?

CZ Very much so. It's tubing, it's not solid and it's quite expensive as well as it is used in industry, medicine and it is very strong so it doesn't block. It's very well made because a patient gets liquid into the body and it needs to withstand pressure, so it is expensive and I think it has jewellery qualities, of course. The quality is in contrast to the polystyrene, which has no jewellery qualities at first sight. But that is the reaction I see from the public in the long run, not immediately, that they understood it has qualities, visual qualities, few materials are as white as that and as pure as that. As light as that as well. I remember this woman who was very shocked when she saw my exhibition in Switzerland and she was a collector of my work and she was furious. She went to the gallery and she said 'what is he doing?'

CR Is that because it was a complete departure from your other work?

CZ Yes I used steel and gold and all sorts. She was shocked and she went out and didn't like it at all. Two years I had a lot of resistance to this. I didn't feel good but I believed it was good work but the general public was indifferent. They didn't know what to think, you need mental strength.

CR Do you think the use of plastics prompts a negative reaction in general?

CZ I think the old fact that a non-precious material will never get the same attraction as people who just look for value regardless of how well it is made. Evaluation of the public is difficult to make, general public assess work on

monetary value. The second audience is more trained visually and has thought about values to a certain degree and they think about plastics but more in Fine Art than Applied Art but in Applied Art less in jewellery than in other disciplines. Jewellery is still associated with money value and return value, which is misguided.

CR Is your work designed to be worn?

CZ All my work is designed to be worn, but like the crown jewels how often they are worn is another question. And how practical they are is another question again.

CR you do design with the body in mind?

CZ Always, even though I sometimes cross borders I still believe my work is jewellery. Even though some people say it is not, but my references are jewellery and this is why it is jewellery and not something else. Of course it bridges into other fields and I am not protective about that, quite the opposite. Increasingly I like the idea to cross between art and design and make people unsure of the category to put you in. I think I use the same approach as any artist, it's about expression, trying to get something across and put something in that is inspired by philosophy and by the understanding of the world.

On the other hand I often use the process of realising the work like a designer, which in other languages, designing means making work for function. In English the word for art and design is split which is a pity. How can you make art if you don't design it.

CR Do you like the fact that people can interpret you work in different ways? Do you like to put a statement or are people able to form their own interpretation?

CZ My appreciation of that has changed. At the beginning when you start making work you are very determined to get your message across. I realised more and more that every statement is difficult, there is less and less truth the older you get and the privilege of younger people to believe there is truth but to try and put my truth on the work and how it is seen can be shocking or can be to the point. I like people to get it right.

CR So you would like people to understand it correctly?

CZ More or less yes but I think in the work there is more and more openness that it really can be interpreted slightly different ways. Not very different but there are more aspects than just what you see. These two pieces here they couldn't be more different but they have the same components in terms of aesthetic arrangement they are very similar. A centre piece which is chained up and elements here which convey a message and these on this piece which do the same. If you compare this one [Commodity Chain K22] this is a very clear object it is a reference to industry to a certain type of product or non-product. In both works I use three components and I hardly ever use more but repetition of form. I think if you see my work together it comes together which I am beginning to see myself. I am happy it can be seen now.

CR Do you come up with the idea first then find the materials to fit that?

CZ It's a forward backward thing. You have an idea and that can be only in one material or I explore this direction. I 1994 when I was leaving college it was most difficult for me to allow myself not to get stuck with an aesthetic. Most people produce some work and you are fine with it and people start recognising it and at this moment it is easy to stick with it for a long time as well. This moment in 1995/6 I changed and I think for me that was breathtaking. I thought for whom am I doing this, me and what does the audience think, I don't care. But there is a conflict, you think oh my god what are you doing? Can this work have the same power because your other work is recognised? By the feedback you realise something must be there, otherwise there would not be reactions. You have to free yourself of the good feeling and start again, start swimming again.

I see a lot of people in all arts who become stylists and don't leave their paths anymore because it is comfy and I decided my life should not be about that. I don't want to play safe and I have to take risks again.

Very few people really believed in it, other galleries did not. To be established you lose the edge.

CR Do you think jewellery is subject to fashion or do you think people are more independent than that?

CZ There is a certain kind of thought even that is fashionable, conservation is fashionable for at least 10-15 years because in Fine Art it has been around for along time. We realise the world is falling apart and its been preserved into a state it can't move anymore. Art provides us with a key with what our time is about and it is an important time and we are doing an important job. Here my work is visually decaying, [Chain, 1995] not really decaying that is another very funny statement in this work. I talk about the steel chain with latex in between and it looks as if the steel decays but it is actually the connections, which is a contradiction. The steel will not decay further, it is cast steel and it will probably last for a very long time. It is the latex that goes.

This work is about the move from industrialisation and move from the industrial age, the material age in a way to the organic age, the biotech age. There is something difficult to put in words it becomes too bland too boring. My thinking was here about steel is a material of the last 300 years. When we think about it it's so prolific for such a long period of time and mans ability to make this material into whatever material he wants to. This has brought us to the world we are living in now. That's why I make decayed pieces which look like they come from the past but are actually about the future. I take the form, they are organic. So what I am suggesting is the future of the industrial age is organic. Biotechnology is the future. At the same time in this work, it's a little scary because when you look really close what is the electrical connector what is the mechanical and the organic to do. So it's my fear, my anger and concern are in this Chain.

CR Your choice of latex was very deliberate?

CZ I think I could have chosen something else as well but it felt right, it felt organic. Latex for me is about the body, it's skin like, it is flexible and has qualities to a certain degree and it was hand made rolled tube and so it also had references to the body, which I connect with the steel which is about the industrial side. It's pods are absolutely about nature. So it's nature and industry, conflict here. This work for me is pre-empting 20-30 years ahead, and my worries about that. It's quite naïve too. I think I am laying here some thinking,

which is already happening. I am 10 years too early maybe. I am sure this is happening. How many men now in America have calf muscle implant? Go to Santa Barbara or Bondi Beach in Australia, they have implants. Go to Asia, China now new big markets for implants. How many breasts have been manipulated changed, challenged, aestheticised. I am telling you too much but why not.

This is glass and polystyrene [Body Piece E and Body Piece EE, 1996] and how many nipples are not pretty, not perfect. But our idea of perfection they have to be. I met recently a woman who has two different sized breasts and she was really upset, there was a big difference. So what, it's normal. For many young people it becomes a real problem, you have been bombarded with images. This work is quite subtle in its thing because the nipples go to the inside not the outside. Why the inside, nature itself is about emotion and this form is emotional and this form is dead. So the polystyrene is dead, it's beautiful and perfect but it is dead. People say beautiful piece so clinical but they don't see the detail. This one goes up and then down and this one just down, perfect. Here the whole world is clinical I don't allow any emotion in. The box that I choose is clinical with the box I hope I achieve to make the person even more distanced from the real thing. The it makes it more precious. That is what I think we are doing when we perfect the body. Scarring is life though, all this health and safety shit.

I am working now with bones and porcelain.

CR How do you react to what has happened to your pieces Chain at the Craft Council and Middlesbrough? Now it has degrading. When I spoke to Amanda Fielding she seemed surprised when it started to degrade she did not understand it would.

CZ When I first met her and she was interested in buying the piece I told her that probably the latex will not last forever. There was no comment, but we confirmed that and I think I wrote this to them. She should keep it out of direct sunlight. The test pieces I made they were pretty much decayed half a year later. So I know what is happening and they seemed to accept it. I was surprised that she forgot about that.

CR She obviously had not taken this on board.

CZ Then she came back to me and said, ok what shall we do? It's a grey area. I did not make it explicit of course and I did not know when exactly it would degrade it depends on how they display it. If they displayed it for 2 or 4 weeks in a showcase then keep it in the dark again. I made a box for it where it can be stored and closed properly. Middlesbrough does not have a nice box. But I made a box at least, I like the casualness of the box.

The other piece, Middlesbrough, is stainless steel and is red and the red makes a reference to blood, it's very literal. I hate literal. But it was also the contrast between the coldness of the steel and the red it was very interesting. The polishing of the steel that never decays and here it gives you the feeling it is decayed. These pieces were made at exactly the same time they were in parallel. I used one table for one and then I realised I had to make a brother piece and made the other piece. I was very unhappy when the Crafts Council took them apart and then very happy when Middlesbrough took the other. I wrote to both saying I would like these pieces to be shown as often as possible together. These pieces belong together. The red piece was a departure from the rough steel work into the medical steel work. This is already about the organic and here I concentrate on plants still and the next piece I moved directly into the body. For me they are key pieces.

CR So you understood about the degradation?

CZ It was not meant, but I accept it.

CR Should they be preserved now?

CZ I discussed this with her I wrote about this. I would allow myself to change my opinion again, it is stupid to have an opinion that is cut in stone. It's opinion at the time and if I change my mind later I think that is fine to do this. We should be able to learn and to change and improve. I later said I am absolutely happy if the decayed piece is displayed of course it can't be hung at the moment just display, pull it out a bit.

CR It does not bother you if the aesthetic has changed?

CZ I think it becomes better. If I have a picture here with exactly the same set up with this decayed one, I would be happy to make it. This picture next to that is almost the whole story because it even improves the piece. Time is on my side. I accept this and if they preserve it and I have not heard from them in a long time and I don't want to cause them to change their mind, don't have to wake sleeping dogs, but if they asked me to take pictures again in the new state I would do this. They also asked me if I was prepared to redo the Chain, these pieces. I said not really. That is the moment when I made it, but I would look at finding a new solution to link these elements together. That will have similar longevity. But I have done it, it doesn't make sense, so why should I make it again. But I could imagine this piece is connected by long strips of dried beef that are knotted to the ends when it is not dry. Maybe stitched on like a surgeon and then dry it. Just a provocation of course. Because this could be a very interesting piece. You could wear it as well, beautiful.

CR Should these pieces have longevity [Body pieces E and EE]? Can they benefit from degradation too?

CZ This material [polystyrene] will be around in twenty years time, but it can be heavily dented, dirty, broken off, cut, all sorts and it really will not be the same.

CR Does that matter?

CZ When I made these pieces I was really determined to make something permanent because I wanted to preserve the whiteness and I worked at least for half a year to coat the material. I coated it and even the transparent coating changed the nature of the material. A kind of resin. They all react to sunlight and become yellow. As a conservator you must know. I went up to my room and was very frustrated and I got up in the morning and went down looked at the work again and thought what I am doing? Why do I preserve it? It's about the body, it's possible to dent it. It my preconception that a finished piece has to be forever. That was really important, I remember it. I felt now I can allow this material to be what it is, and I don't want to preserve it any more. I just have to be very careful with it. When the public see it make sure it is a white pure piece. For the pictures it has to be pure. Everything has an afterlife and now it is in the world and it will change.

CR If possible should the work be cleaned when it is dirty?

CZ If there is one black dot then that is unfortunate because if you have a real patina then it's more than one spot. It's about an overall handling feeling which I prefer than a just one finger nail in a prominent place. For the on looker this damage looks like damage and becomes important, if the overall feeling is that it has been handled it's different, it's about time. Damage I do not want, but I am fine with patina. This table, if you chop a part out of here it is damage but this is a patina and there is a big difference. That is what I think is important.

CR Have you had any discussions with a conservator about your work?

CZ No, not until Chain but I was very happy Amanda Fielding wrote this article about it because I thought wow my work has impact that someone has started looking at that.

CR So you feel it has been successful?

CZ Extremely successful, yes. Amanda said that they could build an exhibition around it. We question and most of our work is about that. I want to question and the process of questioning. I am not into producing production. I want to question and I question myself constantly.

CR Can we talk about how you present your work in photographs? You do not actually use the body as a site for presentation and both these pieces here, Chain and Commodity Chain, are placed randomly. Is that significant?

CZ There are 2-3 things here. One is the title, this one is Chain and this one Commodity Chain. The image doesn't say what could connect these and I accept these have sculptural elements as well. Therefore it has a neutral background to it. It has only got the object itself and there is no context, it only has detail, on the surface. As with this one. I believe that when I took the photograph the surface is the portal to a hidden world. Every surface is the portal to a hidden world and for me I accept the openness of my thinking. I feel very much this sentence could be applied to all my work. So I want just the surface because I believe the surface is like the surface of a skin but I did not want that here. I tried to create only the spoken element and it was very difficult to take a picture

with no shadow, a nightmare. So it was set up on a light box and then flashed from the front, a really difficult picture. I wanted almost the ephemera, the thing that doesn't last to be highlighted. This Chain is photographed on black velvet again because it doesn't leave shadow. I spent a lot of time doing it but sometimes I run out of energy.

CR So you feel the photographs are presenting your work and is a medium for saying what you want?

CZ It's a dilemma, one is an exhibition which is real and connected to the work and the other is working the media and having to perform through the press. I could have been a photographer and if I were then the photograph is important. If I am the maker the making is important, I have to control the picture.

CR As a conservator interested in understanding how to preserve what you communicate, is this a good way?

CZ I would accept that yes. Glossy pictures give impact but I am interested in communicating an idea that goes beyond that.

CR Do you think that museums represent jewellery adequately?

CZ That is a tough question. I am now making an investigation pushing an idea into Switzerland and want to talk to people here too. It's an idea which I really want to promote a collection of jewellery which consists of a display of work worn on the body that is documented in the form of a video, picture stills but that is not in a museum. The work of course is bought by the museum but only the record stays there and allows the piece to be in the public domain.

CR So you are preserving its function?

CZ Preserving function yes, definitely worn but keep the record at the museum, you can quote me about that! Jewellery is about identity and enhancement of identity.

Jan Yager (JY)

10th November 2003

Email correspondence with Cordelia Rogerson (CR)

CR What is the value of your jewellery? The concepts embodied within the materials and construction?

JY If the "value" you are referring to is price, the pieces in the "City Flotsam" Series containing plastic crack vials, crack caps, syringes, dice etc. currently range from \$4,000.00 to \$25,000 USD. The value is not in the material though some may contain precious materials, others are literally debris. The value is in the idea, construction is always considered and carefully crafted.

CR Are your materials valuable, do you impart value to materials through working them?

JY The materials employed in the "City Flotsam" series are all found materials, gathered from the sidewalks outside my studio. The materials are "valuable" to me as evidence of a specific human activity. My motive in using this material was to mark the pieces as undeniably contemporary and of their place and time. But value varies with who is considering it. Some of the materials I work with such as gold and silver are considered very valuable, but so are cocaine and heroin considered very valuable to some people. Aside from cultural artifact, their value comes with artistic arrangement, juxtaposition with other things and through raising the issues they speak to.

CR Is the value of your work greater than the sum of its parts?

JY Yes, absolutely. Isn't transformation the challenge of art?

CR Do you feel value of your work will change over time? Through for example, historical reflection, association with your name?

JY Values fluctuate and are organic in nature. Some pieces could greatly increase in value as rare and unique artifacts of a moment in time. Other pieces may not land in "safe" homes and could end up back in the trash. Who can foretell their

fate? Value depends on many factors. My name and the urgency of the issues raised are only part, there are also the market forces behind who ends up owning them as well.

CR The article about your work in *Ornament 1999* mentions that you cannot imagine the work being worn; you are reflecting on human experience within the work and jewellery can be very intimate. To what extent is wearability an important concept for your work?

JY My work up to that point, had all been very intentionally and successfully wearable. They were designed from the "inside" so to speak. I pictured myself the wearer and designed them with how they would feel to wear and to touch. i.e. weight, tactile sensations, etc., I also considered how they looked close up and at a distance. Qualities of my favorite pieces (the ones I wore myself), became the standard because I knew what felt good to wear. Each piece, though part of a series was unique and seemed to attracted a certain person and they often seemed to bond with their piece.

The new work was no longer a conversation between myself and one wearer. Rather it was a conversation between myself and people on a larger scale, about larger issues -- weightier issues -- that all of us are affected by. In those terms, the issues seemed too "weighty" (ideologically speaking) to be worn/borne by an individual.

CR How crucial is the role or suggestion of the human body within this jewellery?

JY The body is a given as a "rack." In the *City Flotsam* series it is also about the body as vessel, and our dependency upon chemicals and drugs (some legal some illegal). It is also about the power of jewelry to conjure up intimate associations and historical images that rely upon human scale.

CR Does the persona and impression of a wearer leave an imprint or impact on an item of jewellery? Similar to the way a wearer leaves a personal imprint in a shoe.

JY The patina of time and use add nuance and complexity, and are not easily

replicable in other ways. Imprints imply history and intimacy. These indicators are very powerful and poignant reality checks for the observer, and can conjure up a range of emotions from pleasant memories to revolting thoughts.

CR When presenting your work via photographic images how do you want it represented?

JY Styles change with the times, but I hope it will always be clearly visible for people who cannot see it in person.

CR Should the work stand alone and speak for itself or should the images emphasis a particular interpretation and standpoint?

JY I hope it will. . .that is the ultimate test for an artist. But information, context and intent can add to a deeper understanding of a piece. Photography by its very nature is editorial, and will influence how a work is perceived and understood/or not. Realistically, I do not expect I will have much control over how it will be presented in the future.

CR Can a flat image adequately show a 3-d object that is complex in both construction and concept?

JY No. Nothing can carry the feeling of the work like a one-on-one experience, (best if it involves touching). I have come to understand Philadelphia's Dr. Albert C. Barnes who refused to allow photographic images of his art major collection. But it is a reality these days that for a work to be transactable it must also be transmittable. Good photography can make a piece look better than it is and allow a piece to be seen and comprehended better than with the naked eye because of magnification, lighting, detail shots, etc.

CR How appropriate is it that your jewellery can be open to interpretation by others?

JY My work is intentionally complex and multilayered. My hope is that it will give them enough depth to continue to raise questions and survive. Things that conjure up multiple interpretations and continue to challenge us have a better chance of remaining on view and in the imagination.

CR Do you wish the work to be displayed within a particular context or manner?

JY The context and manner in which it is displayed will influence how it is perceived. I can only trust its fate to future curators and hope for the best. Placement among historical precedents, contemporary peer work, or like works of some theme will all reveal different facets of the work.

CR Did you envisage the future role of the jewellery to be within a museum or within a private sphere? In your mind does this affect the function of the jewellery and does it matter?

JY Certain pieces I consider important enough to be held in the public/museum domain, and I am relieved when they get there. Other pieces I try to steer to people I expect may gift their collections to museums or at the very least their possessions may enter the auction/art market instead of the flea market. Some pieces are best in personal collections to be passed down within the family from member to member accruing personal associations.

CR Is jewellery meant to last?

JY Realistically, only a small percentage of works have survived over time. Jewelry is no different. Some of it does. I hope some of mine does.

CR How long should your work last? Is the longevity of your work a priority?

JY At one point I made pieces out of pure silver and then made archival boxes to store them in with longevity in mind. But in fact, historically materials that last also are tempting to melt down and recycle, so perhaps a profound idea and no reusable value has a better chance of lasting? Longevity was not on my mind with the City Flotsam series. Still, I hope they will last long enough to be useful.

CR Does your perspective change if a piece has been acquired by a museum?

JY It gives me some calm to know certain pieces are safe and protected and will last longer. This may encourage people to value the pieces they own and care for them more carefully.

CR Have you had any communication with a conservator about the preservation of your work?

JY The Philadelphia Museum of Art has acquired three pieces from the City Flotsam series for their permanent collection. Melissa Meighan at the Philadelphia Museum of Art's conservation department has visited my studio and taken a few samples of the plastic crack vials to the lab to determine their composition and how best to display and store them.

CR Should your jewellery be preserved for the long term future, Would this reflect or contradict your aims?

JY As an artist, I would be most grateful. I hope they last a long time, though I admit it was the farthest thing from my mind when this body of work was conceived and created.

CR The materials you have used already have the imprint of their original use, the vials are scuffed and marked, if the aesthetics/working properties of your work changed through deterioration over time would this be a dilemma for you? Or, would any change in the materials be a natural progression of the life of the work?

JY Some change is unavoidable and understandable. If the deterioration can be slowed or stopped without visible alteration that would be best.

CR Can your work be reproduced or replicated by you or others for conservation purposes? – either physically or spiritually.

JY I suppose somewhat. I personally could not find many of these materials again in sufficient quantities to recreate them. A few replacement pieces would not alter it spiritually. A recreation with all new material definitely would.

CR Can elements be replaced should they deteriorate?

JY This would change the nature of it, but may become necessary to keep the idea intact. I suppose they could be recreated to a degree.

CR Would replication of components affect the totality of the work?

JY Not if done sensitively, and not if done sparingly, but I would prefer not.

CR Does the jewellery cease to be your concern once it has left your side? Should the future life of the work be the entirely the duty of other professions?

JY I am realistic that I no longer control it, I can only hope its fate will be considered and reflective of the good judgment of the owner or institution. Once a piece is out of my hands, it is out of my control. Storage, care and cleaning are then the responsibility of the owner though I am always available for consultation during my lifetime. Pieces held for posterity will by necessity become the duty of professionals. Ultimately, we are temporary keepers and creators of these things that will continue to speak after we are all gone.

CR Do museum collections represent and display jewellery adequately?

JY Many American museums do not even devote space to jewelry. Those that do that I am aware of often do not give it adequate space. My solo show at the V&A ("Jan Yager: City Flora/City Flotsam") was ideal in that I and my exhibit designer Steven Tucker were allowed to design the arrangement and determine the mounts, pose and space between pieces. Perhaps because it was through the Contemporary department and the space is used for many media (and not specifically jewelry) it was deliciously spacious – it was unusual, wonderful, and in my opinion ideal.

Julia Manheim (JM)

24th November 2003

Interviewed by Cordelia Rogerson (CR) at her London home/studio

CR You have used a lot of PVC and industrial type materials, when did you first start using these materials?

JM Definitely when I was in Newcastle, so 1980.

CR In catalogues there is reference to your use of Perspex before moving onto PVC and Wirewear collection.

JM I think it's because when I had the residency in Newcastle it was in the industrial design department and they had lots of off cuts and lots of equipment and things that enabled me to use plastics. So I think that's what got me going, all these off cuts were not of much interest to anyone else but to make smaller things they were great.

CR Were you thinking about using plastics prior to that or was it exposure to new materials there?

JM I think I used plastics before then but I can't remember. I started off doing enamel and silver and then did wood, ebony and silver with resins to get colour. I seem to go through periods of being rather neutral in colour and then very colourful again.

CR So you were quite drawn to the colour. The plastics you were working with were very colourful.

JM The oranges and mauves were just beautiful.

CR Did you think it quite different from the other work being produced at the time?

JM There were some things which David Watkins was doing Neoprene coated wire and I liked the idea of that and I did some wire pieces which were not a direct copy but were influenced by that.

CR Were you taught to use non-precious materials at college?

JM Not hugely encouraged actually at Central. Although people in the year before, Gunilla Treen, made Perspex jewellery. We were taught in quite a progressive way in that the idea was to design something then find out how to go and make it.

CR So the ideas came first and the materials fitted the ideas?

JM Yes, which was difficult if you didn't know how to do things. Obviously we got taught how to do certain things, largely metals but we were largely left to our own devices.

CR Was the main thrust for using plastics exposure to different materials in a different environment and the influence of others around you?

JM It was also the idea that you could make something really large and it could be quite light and you could make things that were airy and light with lots of struts. The first things I made in Newcastle were Perspex things, brooches where you did not just stick a brooch pin on the back but you found other ways to pin it and the inlaid things. Then you have the possibility of having transparency and translucency and different patterns on two sides so they crossed over.

CR So surface texture is important?

JM Yes, things like this (PVC tubing) were it was softish plastic tubing but it does go harder and not be as flexible.

CR Is the flexibility why you chose it?

JM Yes, because you could tie something up with it or tie something through and then that inner piece would fit round the outer piece so that was the way you could connect them up together.

CR Does working with plastics take a very different skill and was it hard to learn?

JM No, just the thing was to learn how to do it neatly and join things properly.

CR My belief is that it is actually very skillful; you are not just cutting and snipping wire, intellectual skill is needed as well.

JM Well yes, also things like spraying the spotty things; it took ages to be able to do that and the blank discs for the earrings. Mark them out to get precise shapes because the paint you are using is a different kind of plastic. If you use the wrong thing it's going to melt the plastic. I tried to learn about it but it was quite hard to learn in a scientific chemical sort of way because there was not much information around. It was trial and error really.

CR Was it hard to come across materials?

JM They were not very readily available. It was finding things that were used for other things as is often the case. In this instance it was tubing used for making models. I don't remember how I came across it in the first place but somehow I found a source for it. They were fantastic, sent on order through the post, huge tubefuls of stuff. I also found a place where I could get very flexible fine tubing in the most gorgeous colours and it was through some funny shop like a bead shop. Eventually they gave me the trade supplier and I just ordered reels of it.

CR How would you respond if people say this lacks the skill of conventional jewellery?

JM I don't think it matters. Obviously there is a skill to it if the end result is something of interest. I don't think it matters what material you use except that it should be able to be worn in some way.

CR Is wearability an important concept for you?

JM It's muddled in a sense because I was very much wanting to explore the extremes and edges of jewellery; where it meets clothing, sculpture other things, the grey areas where it's not necessarily one thing or another. So in some pieces I was concerned about it being wearable, in other things I was more experimental. I wanted to express an idea or it took up a certain amount of space or something or other that wasn't about wearing it everyday.

CR In the terms of your designs was the body important?

JM Yes, in this drum-shaped piece here it was about encasing the body in a light airy way. Something you could wear, that's very definite. The first pieces were very much more angular and stuck out or defined the area around the body and then the next phase of pieces were much more in tune with the body they weren't trying to react to it, but trying to respond to the curves and contours of the body. They were much more flexible, more fluid. But that doesn't help you in wearing it and how it actually lasts. This drum shaped body cage there were little speckly pieces of PVC squares on the corners which were tied in with pieces that went right through the larger piece of tubing and if the piece was packed away those pieces would crease up or fold over, which didn't look right. You had to warm them up or steam them to get them to become as they were supposed to be. Things like that are irritating. You don't want to send things off to turn up somewhere you aren't and it looks awful and it's displayed looking terrible. Then you maybe go there and it's not how you want it, that's really embarrassing, horrible.

CR Talking about presentation, you obviously present your work carefully, how important is photography for your presentation?

JM It's quite good fun being in the photo and it's also the best way to get it photographed properly whilst collaborating with a photographer. I found that's when I have got the best photographs, when photographers are willing to work with me. That's what it was like when I did the collaborative work with the choreographers and dancers. In the end wanting it to be both of your work not that bits mine and that's yours, sort of more the sum of the parts.

CR You are very much presenting the jewellery being worn. Can the jewellery also stand alone?

JM Some things yes, and that how I moved onto sculpture in a way. Wanting to make things, which were objects in their own right but could be worn. Then that led me to the large wire figures which wore the jewellery for me in a certain sort of way and there were wire busts as well, quite abstract ones which wore pieces

of jewellery. Then it was starting to make a step between them, something to wear and something to look at.

The PVC tabards are very funny. They remind me of when I was at nursery school and I was a town crier in a play and my mum made me a tabard. I thought they were quite good fun, very odd things.

CR Half way between clothing and jewellery?

JM I liked the fact that I stuck jewellery on them and painted on them, it seemed quite refreshing to me. Not worrying how everything is fitting together and joining, a bit freer. I found it incredibly restrictive and I wanted to explore the boundaries of it. It's not in my nature really. I've always been the one writing and it's a way of expressing my personality more.

CR How did people react at the time to your ideas and choice of material?

JM I can't remember. I was on a sort of trajectory and I was very determined and single minded about it.

CR Would any negative reaction affected your thinking process?

JM I would still have used plastic. If that what I thought would be a good thing to do, I just did it really. It's like using newspaper, really that big things I made they were not jewellery but I kept being asked to be in a jewellery exhibition. I was making production stuff as well.

CR Did you have longevity in mind when you made these pieces?

JM No I didn't. If someone was going to buy it I would want it not to fall to pieces but on the other hand no I wasn't thinking of it surviving in the next century or anything like that.

CR Are you pleased some of your work still exists in collection?

JM Yes but it seems like a lifetime ago, ages ago.

CR Was the work about the present moment and now it is part of jewellery history and should it exist now?

JM Yes, it's very nice it's in collections and that people think it's worth having.

CR Did you know your work was being collected?

JM Yes, I do know there are a lot of collections. If they don't buy it directly from you they don't tell you and you don't find out it's in there. Some people write and tell you and talk to you about it.

CR Would you like to have input when your work is collected?

JM I think it would be sensible to ask advice on how to keep it. Sometimes I have had my work photographed upside down and that's very disappointing when you don't know it's happening and you find a book and it's got an image in it and you think that's ridiculous, it's misrepresentation.

CR Photographs are a form of preservation that is useful for jewellery.

JM I think a photograph and a piece of jewellery could be hung on a wall but it would be nice to have a piece not hung on a wall and placed on a mannequin, not naked either. I think that's to declutter things.

CR Do you think the personality of the wearer adds something to the jewellery?

JM Yes Otto Kunzli expressed that with those fabulous pictures of brooches. The Spanish catalogue too, that was wonderful and I thought they photographed my piece really beautifully. If someone can do that when you are not there that's brilliant.

CR Do you sense there is a hierarchy of materials for jewellery making?

JM I don't see it like that, some people do beautiful things with precious materials but not many. What you do with the material is incredibly important.

CR Should one of your pieces change over time losing flexibility is this a problem for your work to be displayed for visitors in a museum?

JM If it looks crumpled or wrinkly yes, bent or something untoward has happened then that's not good, things broken off. I know all these classical things that have had bits bashed off them we think of them as that and we accept them. But I think in a way plastic is a material that has a good patina. I think metal does although I did once see my rings in the V&A collection. I felt quite upset about it that people were actually seeing them like that, it's lucky the director was there, he was mortified. But Perspex does wear rather better I think.

CR Is it cultural perception of bright shiny plastic items that means we are not used to them ageing?

JM I'm not sure, I've got lots of little Bakelite things and I don't expect them to be pristine. I suppose it depends if it's because it's been worn a lot, that might be different from it being not kept properly in a collection. One might be more accepting of it if it has been worn, so the second one applies.

CR Should work in a damaged state not be displayed?

JM It depends on the context and how bad it is.

CR Would you like to have a say in that judgement?

JM Yes, I think so. But then of course does one want to be consulted on every little ill when it's 20 years on and you are onto something else. There is a fine line as with everything, some cases it would be good to ask. I would definitely be upset if someone else repaired it.

CR If a damaged element was replaced with a newer piece would it be a problem?

JM If I couldn't tell, no, but I would feel a bit strange about that. I think I would notice and I think it would look a bit odd because it wasn't me who did it. In that

case the artist should be consulted and they can say I don't want anything to do with it or I'll repair it for you.

CR Have your perspectives changed since you made these pieces? Do you want them to still exist now?

JM The record is the photographs in a way, some cases I prefer the photograph to the thing. But then again I might pull something out and unwrap it and actually be quite delighted by it. Surprised that I have actually made it very well or that it still looks fresh or of interest to me, it's a surprise to me what I have done.

CR Is jewellery subject to fashion?

JM Yes, I think so. There have been certain times when it's been very exciting and it's setting it's own fashion in a way. Do you mean it is allied to fashion?

CR I think it is allied to fashion in a way but also I think trends happen within artist jewellery as well.

JM But I think there are times when things happen and key individuals do certain things which are quite startling, new fresh and different and then I think art historians tend to make them. People tend to put them into fashions.

CR I guess they desire to categorise in some way to help explain the development.

JM Yes, they get lumped together with things that weren't necessarily an influence at the time.

CR How do you see your work fitting with other pieces being produced at the time?

JM I felt I was doing something different really but obviously there were various influences but I felt very allied to Pierre Degen and the way he worked although they were different.

CR His was almost performance work.

JM Yes and the body and I don't know it doesn't look similar but I felt we were thinking along the same lines.

CR If your work is in a collection do you feel the issue of longevity should be important?

JM If it's in discussion with a museum then that's a different thing but it shouldn't be a reason for making something in a particular way or with particular materials at all. I think you should do what ever it is you think is the best thing to do. It shouldn't be an inhibiting factor. It might be an aid to creativity to work within certain parameters, it might help you come up with more exciting things but I feel a lack of experimentation with jewellery at the moment. In all sorts of ways, it's going through an unexciting period.

CR Has it become more sophisticated in any way?

JM I'm sure it has, people are doing all sorts of things and techniques but I tend to use things in a low tech way. I can't think of anything I have seen recently. The jewellery collection at Edinburgh, it's quite exciting, there was something of mine in there I didn't know was there. On the whole I think they are not particularly imaginatively displayed.

CR Do you think it would have been useful to be in contact with a conservator when you were making things?

JM Might have been. Whether or not I would take it nor not is another matter. I think all these things can be very inhibiting, stifling creativity. If it's going into a museum collection I don't know if I would have made them at all. But it's good to have information about materials and things.

CR Would you like your work to become an heirloom?

JM Yes, actually something I made for somebody they willed it to me and I've got it. It's very strange. It's a ring made out of gold made out of her mother's wedding ring and various other things and she commissioned it from me and I

made it for her and she left it to me. That is wonderful, kind of odd but really nice.

CR Does the value of jewellery change over time?

JM Yes, things just do, depends whether people think it's important.

CR Does historical reflection play a part?

JM Good question, I suspect it becomes more valuable but I don't know if it becomes more valuable as a thing.

CR Ideas become more valuable perhaps. According to the curator of the mima jewellery collection the founder Ralph Turner canonised the collection by presenting it in his book.

JM I think that's the kind of thing that happens and in a way it's something very creative he had done. Also by being interested in jewellery especially non-precious , he saw its value ages before others understood. What he did at Electrum before then. I can remember going to that gallery and thinking these things are so exciting. But it was silver, stones and stuff but I think he really pushed forward Electrum. When you go there now it's not at all exciting to my mind. Ralph was the connection and without him the movement would not have been so significant.

CR His name is on many things

JM A similar way that Caroline Broadhead has been. She thought of doing things and at times has changed things. I'm thinking of when we did the Fourways exhibition and then we went over to Holland and Griselda Gilroy who worked at the Aberdeen Art Gallery they had the show and she was incredibly influential in getting us to Holland. Then we made lots of connections with Holland and we brought in some Dutch jewellers and others. We still did something in a point of time that made something else happen. That had a huge influence on Dutch jewellery, not to be overbearing but also on Electrum as well as they had a huge Dutch show. Dutch jewellers then started to think in a much more British way,

chaos and painterliness than they had done before. Their work is beautifully put together.

CR British work is much freer?

JM Yes, not all

CR It takes a lot of skill to produce this.

JM I'm surprised I have made them as well. I should trust myself but I always worry about it. Without all those other things happening, without a certain person at a certain time, certain people corresponding colliding at the right moment which at the time never seems as though it is. Only when you look back it's much easier to put things together. Going off to Newcastle really did help me, free me from commercial constraints, fantastic, concentrate on my ideas. It was only meant to be one year but it turned into two, even better.

Caroline Broadhead (CB)

25th November 2003

Interviewed by Cordelia Rogerson (CR) at Goldsmiths, University of London

CR You were known for using ivory early on and then you adopted other materials.

CB I was not lucid at saying what I was doing. One of the differences now in education is that people are more and more drawn into being articulate about what they are doing. We were not.

I chose ivory because I wanted to have a strong contrast in what I was doing. A hard material looking as though it was doing something soft and I think it was an instinctive thing. It was not something I looked up such as marble sculptures or anything that would have informed me well, or that it had been done before.

From that I wanted to make something much faster. It was of interest to make pieces in a shorter amount of time. I was driven by commerce and I wanted something I could sell and be more accessible. That was the cotton pieces. Again there was a reaction to that. They were almost too fast, disposable and I was looking for something stronger and that was nylon.

Then I did the tufted bracelets when I was mixing materials and they were very very difficult to make. The wood would always split at the last minute so there was a lot of wastage.

CR Is there a lot of skill involved in using plastics?

CB I tried not to think of it as skill and I still don't. It's straightforward, not like learning the craft of enamelling, knowing how it's done. It's much more straightforward probably. But I was looking at things, the way brushes were made and I had a friend who worked in the textile department at St Martins and so she helped me get the right dyes. The rest was trial and error. We had a woodworker next door as well so in a way it was me explaining what I was doing and in a way it was just picking up little bits of information.

CR Do you think you became adept eventually?

CB I was trying to do that. I was trying to make them look professionally done. Obviously I was looking at other jewellers and realising there was a very high standard out there, especially with the German jewellers. In a way you are trying to measure yourself up against people like that, using different materials. I would have liked to use a lathe but I didn't have access to one. So in a way the things aren't round as they should be, so it's doing things that you can with what you have got at the time.

CR Your choice of materials such as nylon has a very different value from your use of ivory. Was that a definite change in your attitude?

CB When I was at college there was a feeling that ivory was on the list of possible materials and a lot of people were using it. It seemed to be another option. During the time I was using it I think attitudes became different. I came to realise it was not something I wanted to use. But I loved it as a material. It was fantastic, very dense, fantastic surface, easy to work with. You get a fantastic shine, all the physical properties were wonderful. I did like the fact it came in a tusk not a sheet, you had to see a piece with the shape. I guess it was more like stone carving. You had to fit something in and work out how big you could make it. So I liked that sense of trying to cut something out.

I couldn't find a replacement for that sort of material so I went the other way. I went towards coloured strands and much more something that was softer and more immediate than carving things.

CR Were you attracted by the flexibility and colours?

CB Yes, when I did the cotton things I was busy looking at the kind of overlap with fashion and wondering why jewellers had to sell through galleries not shops. I was trying to make it so it could be sold alongside clothes and be seen as things you wear. It was an attempt to get it into a different sphere, sort of outside of jewellery, but it came back into jewellery because of the materials.

I've always liked a flexibility, whether it's a visual flexibility as in ivory or an actual flexibility as the cotton did or what the nylon did. It was the handling

properties I was looking for and the way something felt against the skin or how it felt when you were putting it on playing with it. I think I was looking for that kind of playfulness the discovering bit.

CR It was not a conscious decision to subvert values?

CB No it wasn't. In my year there was a general feeling that you didn't want to do gold and diamonds. They were trying to make us.

CR You were being taught this?

CB They were trying to work in this thing you have a client base on paper. And we all went no, that's not what we want at all but there wasn't anything else to fill the gaps. In a way it was testing things out to see how else we could operate. I think I always realised it was what one did with the materials that was valuable.

CR So the idea is the most valuable?

CB And how it was presented. How well you made it, or the care you took over it and the detail. That was invested rather than saying this is a block of silver or a block of gold or something with an easy value.

But I also think there was also an accent on the simple solution to an idea, a bracelet or brooch and it was a very Dutch thing. Very pared down and very functional and I think the British tended to be much more decorative in what they did. There was that as a yard stick because it was so opposite to the gold and diamonds. The things like this, the bit of aluminium and whatever else it was, a bit of knitting so that was almost reduced.

CR Did you sense influences, those around you, were you aware you were moving in a different direction?

CB I don't think I ever felt part of anything. I never thought I was in there somehow.

CR Only with hindsight?

CB At the time it never felt like that at all. There you were working away thinking I hope Electrum Gallery will have these pieces. Susanna (Heron) was a major influence. She was in the year above us and I think she always set the standard. Both in what she did and the way she behaved in terms of how she would deal with people and her professionalism. So I think that was always quite good. I guess Electrum was always strong at that time. There was a period of time when you did go in very regularly and you looked and got excited by what you saw there. What was being produced. I am aware now there might not be anywhere for students to go and be delighted by what is coming out.

CR Was it more exciting then than now?

CB Yes, Electrum was just starting out, there was a proprietor and an artistic director so there was a push to get the most exciting things from Europe in there and really provoke people and introduce new ideas. So there was a different policy for those few years. In the beginning a lot happened, now it's in Bond Street it's still got to make money and now doesn't have that level of ideas.

CR Do you think Electrum influenced jewellers' attitudes towards plastics?

CB I think plastics were primarily with the German people, Claus Bury. They made plastic as though it was gold and put gold with it. I think I was impressed but I don't think I liked them very much.

CR It was not what you wanted to do with it?

CB No, but there was an idea that non-precious materials were more exciting than traditional ones because it felt like there wasn't a history there, of course there was a history in other areas, but not in jewellery.

CR Is there still a hierarchy of materials?

CB I don't think so from a designing point. But I think the perception is that if it's made out of metal it's a safer bet to buy and that's incredibly hard to dislodge. To actually dislodge it is to make something so compulsive and attractive visually.

CR Do you think you played a part in shifting ideas?

CB I don't know I guess I contributed along with others. I think the alternative materials allowed other ideas to come in. So it was not just the materials, it was putting the accent on something that was probably a lot more sensual and a lot more cerebral as well, no longer money and status.

It was about how you wore something for identity and how you connected that with other art forms. Or how you wore it at that point in time. There were these openings, possibilities, it wasn't just about putting something on and asking how much it cost.

CR How important is the wearer, can the jewellery stand alone or does the wearer complete it?

CB Quite a hard one. When work has been designed to take account of the wearer the answer should be yes. But I quite like the pieces on their own as well. The complete bit is where somebody is handling it. Not necessarily even wearing it, just discovering it. So for instance with the *Grid Armpiece*, it is the fact that you pull it up, stretch it and put your hand there or there. Those choices and the tactile element. I think it's the fact it's not purely visual that I like.

CR But you design with the body in mind?

CB Yes, something like that failed on that level, because it's not very comfortable. It was designed because I was trying to get away from circles so it is far more interesting as an object than it is being worn. I think I was also trying to work out on that one, in particular, of how something could be an object and work as something to wear. I think that one came down on the object side.

CR *Veil Neckpiece*, is this very much about the body and the wearer.

CB That one looks much better in the photograph, when there is someone wearing it. If somebody starts moving around they would look a bit silly. It's

actually terribly comfortable you can see out, see in. But the fact that it's a photograph, very still and eyes down it's become an icon of that veil and modesty.

CR Did you envisage it like this when you made it?

CB No I didn't have any idea of how it might look on. Obviously I tried it on, it was made so it was high enough when it rested on the shoulders, so it sits down here and still stands up. I thought it would be a wearable piece and you can squash it down and wear it but once you have seen the image it takes on such a personality so it is hard then to wear it. The image is the use of it. The image is actually a very strong one. He took a whole roll of film with it and I have another one which is almost exactly the same but she is looking at the camera, but it looks completely wrong. A very particular moment when she is looking down.

CR Does it represent how you would like *Veil Neckpiece* to be?

CB I was really thrilled by seeing that. The lighting is very nice and it is a strong image of her being caged, screened, protected and separated off from the rest of the world. But she is very passive and modest. It could have been the opposite end of the spectrum, sensual.

CR She does look caged.

CB Cocooned somehow, it shows the piece off in the way that it's worn. It has captured one of the areas and because it is so strong it has never been explored in any other way.

CR The image is as much about preservation as the object itself.

CB They are also presentation, a means of accessing. A lot of people say where is the string? There is no string, it does stand up. People think it's a trick of photography. The ideal way of seeing that piece is handling it, twisting it around yourself, putting it on, seeing how it behaves.

CR Some of your works are photographed on the body and others off.

CB David Ward, all of the dynamic ones on the body are by David that was very much what he was interested in. He was pursuing his interest. In a way I was silent. I was saying, well it goes on like this, he came up with these.

CR A collaboration between artist and photographer.

CB Collaboration between the piece and photographer. I didn't know what sort of dancers they were. He iconised them, made the pieces. They are brilliant photographs. It's a lovely way to see your work through someone else's eyes. I doubt I would have got that far on my own. I don't think I would have considered dancers. I would have been too shy to ask. For the exhibition Cross-Currents of all the ones they did with dancers, those ones worked best. In a way the piece was contributing to the photograph. Ideas of movement and dynamism, extensions of the body.

CR On display does jewellery tend to lack the body?

CB I don't know what else it could be. I've always thought jewellery is very hard to display. It tends to be displayed quite badly, crammed in because it is small. Its not really fair on anybody. But on the other hand, Mah Rana's show at the Fabrica Gallery last year – it was designed in a particular way with an overall quality. Round the church it was almost an installation piece.

CR Do museums represent jewellery adequately?

CB No not really but without a lot of thought, for instance, looking at the V&A collection the other week some detail is incredibly hard to see. I know the problem is huge. They have got so much and they want to show as much as possible. But the way it is displayed you have to move on before you have seen everything. I don't know what the answer is.

CR Is more context needed?

CB Jewellery seems to carry so much preconception with it. You need to see the real idea, a display that informs what actually goes into making with other materials, not gold. You don't want text to dominate when you are looking at it. There is space for something to happen with jewellery.

CR When you made your work, did you consider its longevity? Did you consider people would be viewing it now?

CB Not at all. I think when I made the cotton pieces I think I realised they would have the same lifetime as a sweater and that was fine. When it got to other things and people actually started buying them for collections I think I assumed that they would last, but things like colours would not, like textiles. I know the ivory shrinks and expands and there is nothing you can do about that. I have just done my best to make them as solidly as possible but it hasn't always necessarily been the top of the list. It's much more about exploring the idea, that's the top thing really. Obviously I wouldn't want to sell something that would disintegrate but otherwise I wasn't bothered.

CR If a collection bought your work, do you think I want this to last?

CB Often when people have owned my pieces in a collection they have been much more careful, which I love. I sold a very carefully coloured one to Shipley and they have kept it so beautifully, in the dark, and it is just like the day I made it. It's fantastic and yet sometimes the ones I have had around have faded, so at least you know this is what happens. They need careful handling I suppose.

CR Does a wearer leave an imprint on a piece of jewellery?

CB I think they probably do, but I like this one pristine (Shipley example). There is something thrilling about it lasting, actually still being the same.

CR Has your perspective changed?

CB Yes definitely, I would have reacted in horror in 1979 when I sold it to think that it might reappear and look exactly the same. I think I would be a bit terrified to see it. Now I am very proud of it which is nice that someone else has carried on the care.

CR You would like it to have longevity now it has its place in jewellery history?

CB Yes I guess there is something like that.

CR Can we consider Grid Armpiece again, held at mima. It has been handled and now is damaged.

CB Has it been stretched?

CR Yes, is this damage to you?

CB No, it's not damaged, you can just pour boiling water on it and it will be fine to get it back to the original. I think because they bought it from a gallery and not me I couldn't tell them that and when you take it off you need to pull it back into position. Now it may well have taken on that shape but it is not gone forever.

CR If it stayed stretched in this shape would that be a problem?

CB It takes away the idea that you might fit your hand into a different hole. They are all equal and now you always want to go for the centre. It's the idea that you could just keep going in any way and come out lopsided. So I guess it's taken away part of that choice, albeit the choice most people would make.

CR Is it damage or a patina from wearing?

CB I was trying to make something look as though it wasn't a bracelet, so by being stretched in that way, it has taken away that kind of layer. It's actually a minute moment that choice. As soon as you touch it you know you can, but that was the idea behind it. So I guess even if it is stretched I hope somewhere it could say that is the idea behind it.

In a way there were a number of pieces I did alongside that almost disguising the fact that it was jewellery or that it was visually jewellery. I think that was quite a strong thing to work on. So in a way the wearing takes away that first layer.

CR Does it matter that it is open to interpretation like that?

CB I think that is fine. It is the relationship between other people and the piece, it's bearing the marks. A recording of what the intentions are is important.

CR How should this be recorded?

CB Photographs or a bit of writing, I don't think it really matters. Almost need a little marker. The idea was to sell them and have a fast turnover.

CR Should your pieces be displayed in their changed state?

CB That's a hard one. I haven't seen it happen. When they are faded they look much more tired than they should do. What I don't like is when they are put onto a dummy, somehow it finishes the idea off. I prefer a more enigmatic display with the piece and the photograph. They are misrepresented when others photograph them. Particularly when there is a good photograph around and people try and re-photograph it. It doesn't usually work and it takes it outside its time. They are of the moment. It's not good if somebody is doing it quickly and not very sensitively.

CR Have you spoken to a conservator before?

CB I can't think of a time, but pieces are much more fragile now. They need more fine instructions. In giving people information it has been forced out of me. I wasn't thinking forward at the time to a distorted or faded bracelet.

CR If you had had conservation input earlier would this have stifled your development?

CB It might have done at the time. Now I would do it sensibly, now it would not be a problem.

CR Would you like your work to become heirlooms?

CB Yes, how wonderful.

CR But should your pieces become damaged in use or in a collection is it appropriate that a conservator rather than yourself replaces an element?

CB I think so, it is better for the piece to be functioning anyway. Grid Armpiece is dyed altogether so the same colour would never be replicated. I would like a note to be made of it, to say it was repaired.

CR You think this would retain the integrity of the piece as much as possible?

CB You are getting spontaneous answers here, I have not thought about these things before. I realise certain things can't be repaired, a week's work would not be worth it.

CR Is it better to remove work from display than present it damaged, with components removed?

CB Yes I think it would be better to take it away. It would represent a rather tired representation of what it should be, then maybe it's better not to have it.

CR How would you define ephemeral?

CB I guess truly ephemeral stops being the moment it stops being on show. Stops functioning as the piece. In terms of jewellery I guess it is something that there is no expectations for it to last. It could last several wearings though. It's no surprise that it falls to bits or dissolves.

CR Do you think that ephemeral work is premeditated?

CB One would hope so. That would be a shock, it has to be deliberate.

CR How do you describe your work, given that you did not consider its longevity?

CB It was impossible for me as a maker to work out how long something would last. The conditions it was in. The veneered bracelet with holes in it should last for example. I varnished the wood carefully, filled all the holes and you do all the things that you think are necessary, whether it's right or not is another matter.

CR Not deliberately ephemeral though?

CB I did all the things I could apart from the colour, I couldn't do more about that. The dyes are not a very stable thing. As far as I did I made them to last. You never know, even with silver things, one person will come back in a few months and it's all battered and scratched and others will have it for years wearing every day and it's pristine. You have no idea what they do. Jewellery is something that gets damaged, on your wrist, you put your hand down, it's right in the cut and thrust of life. You are sending something off onto a journey and you have no idea what it is. In a way it's not like making a pot where you imagine somebody putting it onto a shelf and dust it once a week, keep it behind glass and it's not going to be handled. We have to say, well, it's meant to be worn and used and hopefully it won't be the making of it that lets it down sooner than anything else. But I certainly never imagined they would last this long. I suppose I wanted them to be used, that's the idea of them.

CR Were you flattered when people started collecting your work?

CB Yes it's a great honour to have your work in collections, yes great. It was so nice when I borrowed the Shipley piece five years ago. It came in a sturdy box and it was so nice to have it looked after, I thought that's my work they are looking after.

CR The status has changed almost.

CB Yes it has definitely. People ask can I touch it and I think well I just made it, dropped in on the floor picked it up and touched it, of course. You have to be able to touch it, it's tactile. Then suddenly it becomes this thing in a box with tissue paper. And some conditions are a bit weird.

CR No longer allowed to touch it with your bare hands?

CB Yes. In exhibitions there is a middle ground. Having bits of material you can touch, having the piece moving around looking as though it's worn. It's an important way of discovering things.

I will be thinking about what you said for quite a while.

CR If your perspectives change I can give you my contact details.

CB The time element is very odd isn't it.

CR Different artists do react differently. Christoph Zellweger has been forced to think about the ageing of his materials, Adam Paxon has yet to.

CB He was one of my students, so I know the way he works. He is a magician, really fantastic with materials and he makes them do things that no one else can do, really wonderful. He does seem to have a way of making plastic behave and I think his things will last a long long time. If somebody else would have made it, it would have fallen to bits. I have an earring and a brooch of his, which I wear a lot. It's a skill thing, the handling making sure it's bent or whatever.

CR Do you think peoples skills have changed, now there is a legacy of use in plastics?

CB I think a lot of the things you do are the first things when you pick up a material. Once you have done this it gets easier. I suppose the next generation think we have to do something better and move on from there. It's also individuals getting a certain quality out of the material, light reflection, or a range of ideas. Trying to make Perspex not look like Perspex, which is great.

Nora Fok (NF)

17th August 2003

Email correspondence with Cordelia Rogerson (CR)

CR What are the influences/ stimuli for developing/ designing your work?
E.g.nature, narrative, social context, other jewellers, art, fashion?

NF My ideas come from organic sources, my life and the world around me. With every piece of work I make I include a brief description of its origin and development.

CR Which plastics do you use? What were the qualities of your chosen materials that prompted their selection?

NF I use mainly nylon monofilament, occasionally incorporated with PVC and acrylic. Nylon is very soft, light and flexible, warm to the touch, very suitable to use for wearable objects.

CR What do plastics mean or imply in your work? Do you choose the material to fit the design aim or is the material conveying a message in itself?

NF Plastics materials are a very friendly and safe to be worked with in a home environment, especially with very young children.The material is also suited to the ideas I want to express.

CR When did you first start using plastics within your work?

NF In 1979, when I was a student.

CR How do you work with the plastics, what are your manufacturing methods?

NF I use the plastic materials according to my ideas and I have developed my own working methods through research and experiments.

CR Which other materials do you combine with plastics and why?

NF Recently, I have incorporated fresh water black pearls into my nylon pieces. They fit in well with my ideas and complement each other.

CR To what extent is there a hierarchy amongst materials within jewellery making? Precious v. non-precious, metals vs. plastics for example?

NF Traditionally jewellery is bought as an investment; precious metals, gem stones, like diamonds, always retain their market value. Non-precious materials and plastics have no intrinsic value but the true value is in the ideas and their suitability to be worn.

CR Are your materials valuable and /or your ideas valuable? Do you impart value to your materials through working them?

NF My ideas are most valuable to me, the material is a medium with which to express my ideas.

CR Are plastics denigrated in jewellery making or are plastics viewed as serious artistic materials? To what extent have the attitudes of jewellers and consumers towards materials changed at all in the time you have been working?

NF Plastic is a very serious material for me. I have spent a lot of time on research, and value them as important materials to be explored. Consumers do not value plastics because of the mass production methods turning out vast amounts of objects at low prices to suit the "throw away" and convenience culture started in the 70's.

CR How important is the concept of wearability for your jewellery? How crucial is the body/ persona of the wearer in relation to your jewellery, to what extent do you design with the body in mind?

NF My pieces are comfortable when worn and enhance the beauty of the human body.

CR Is the longevity of your work a priority for you? How long would you like to see your work last?

NF Longevity is important but not a priority. I would like the owner to enjoy my pieces for as long as possible. If these pieces are looked after well, I think they should last 50 years to 100 years or beyond.

CR How and to what extent do you research the materials you use in terms of working properties and longevity?

NF This is ongoing research for me, there are a lot of new products with different compositions to suit consumers'(anglers) needs. The monofilament I buy has to be tested before I use it in my work.

CR Is preservation advice given with your work when sold?

NF I put "Keep away from direct sun light when not worn" on the purpose built boxes for my pieces.

CR Do you feel your jewellery ceases to be your concern once it has left your side? Should decisions regarding display and future of your jewellery be entirely the concern of others, or would you prefer to be involved in this?

NF I do care about my sculptural pieces very much, some pieces have special fittings/ display materials included in the boxes that house the work.

Kathie Murphy (KM)

17th December 2003

Interviewed by Cordelia Rogerson (CR) at her London home

KM I have been 10 years working now. I graduated in 1990 from Middlesex. I had a year working for myself raising money for postgrad studies at Glasgow. I was working more in resin when I graduated from there in 1992. My main resin collection is from that time. I was also using rubber. I did use a lot and some have been fine and others have not. Over the years I have had repairs back but it has got to a point when I think something is happening to make it do this. I used to use nitrile rubber and from the pieces I made I didn't get a constant problem of repairs. I am now getting a lot of pieces back I made 5 or 6 years ago, more so, they tend to be peoples' favourites, they wear perfume with it. I used silicone rubber, bean pole elastic they use in fishing and it says don't come into contact with a certain substance, otherwise it's ok. But the superglue cyanacrylate does something to it, making it shear off where the glue meets the air.

This is around 1992, the beads are a bit smaller and the rubber a bit thicker. What's happened is they were held on by O-rings, rubber, and they have perished and split. That rubber is fine, the newer ones with thinner rubber are fine.

I have had to find out so much by myself, finding out how to cast in 3-d . I used to file them all up by hand. Now it seems so obvious.

CR Is your approach trial and error?

KM Not completely, I would say there is a certain amount. This is meant to be an industrial rubber so it was considered it should be long term, acid and alkaline resistant but not alcohol.

CR All rubber will perish eventually.

KM It also depends on how much it's worn. I brought down my older pieces. This is from just after my degree show and that's dyed marble. I've used rubber O-rings for absolutely ages. I quite like the experimental side where I would end up

using silicon rubber. At Middlesex, squashing the rubber through fabric and then I didn't realise that what I should have been using for casting the resin.

CR Was expertise available to you?

KM Supposedly, but also they quite like you to find out for yourself so I felt I could have done a lot more. They had told me basic things like mould making. We used to cast into milk cartons, then Health and Safety clamped down.

CR What made you choose resins and rubber?

KM Colour, I really liked colour and I did evening classes between the ages of 14-19, the tutor had a degree from Guildhall, Sir John Cass and he encouraged us to do anything we wanted. In my foundation year I continued this. He said I think you should have a set project, something to do with Memphis, as it was really big in the 1980s and so he said there is this stuff called resin and I got on with it ok.

CR Was it the versatility of the material that attracted you?

KM No, I did not know it was versatile then, more about colour. The blue bit is resin the black bit acrylic. Just cast in a block and cut out. It has colour and a bit of movement in there. The screw thread can make it move about a bit. I did make necklaces as well. I was big on titanium; colour was really big at the time.

At college I was more interested in marble and stone. I had just always liked it, but the criticism of my tutors is that they are monumental, boring and static. That made me go away and think again. This rubber will date back to 1980. I have not worn it, it has just been in a box, nitrile rubber.

CR You were using cast forms even then?

KM Yes they are, you can see where the later stuff comes from. For my degree show I tried bits with metal but they all chipped off.

CR Have you used precious materials at all?

KM Yes. I still do a few bits every now and again and I still work in a particular collection using silver but I tend to combine with non-precious materials as well so you get cork and silver together.

CR Do you have a free value of materials?

KM Yes it doesn't matter to me. It tends with jewellery that people have an association with it, not really a material value it's to do with emotions not monetary value. But having said that I started some pieces with pearls set inside the resin for an exhibition at the Lesley Craze gallery called Paper, Palladium and Pearls. I always try to use an exhibition to try and forward my work and I phoned up to say what ideas have you got? They said we don't want you to do plastic rather combining plastic with the materials specified. Because of the preciousness of the pearls I was not very keen on it but I knew it would sell really well because of the pearls. Consumers still do associate. At Dazzle there are people with very different attitudes. We have a lot of men buying, there is an excitement about getting something unexpected.

CR If you had a negative reaction to your use of resin would you have changed your working practice at all?

KM No, I did have in the beginning and it has been really hard. I had to do jobs working in an art shop. It didn't sell to the mass general public immediately, but discerning people did. There are people who just don't like it. They balk at the price.

CR Do you add value to plastic by working it or is there artistic value in the material already?

KM A tricky one. I always quite like the idea a pile of beads will be found in a coffin just like the Egyptians, maybe without the rubber because that won't have lasted. I remember writing ages ago that although environmentally it's not very good maybe one day because it derives from oil the oil supply will run out and plastic will actually be precious. But I like the notion it is a finite thing at some point it will disappear. So a bit of both in a way. Ultimately I just want people to like everything, the design, the colour. Quite often people are surprised when they pick it up because it's quite warm and it isn't soft, like jelly beans. I don't

know if that's another reason I had never eaten so many sweets in my life and this is the element that comes out in it. I love food anyway.

CR Do your bead shapes signify anything in particular?

KM No, it's a very deliberate thing to make things very commercially, although at the time it didn't seem so for the general public, £80 for a necklace. They come from how language came about, mark making and symbols. They are meant to be fairly abstract, crown, leaf, triangle, shamrock, lotus flower, tulip but having worked at Dazzle I know people like representations so it's a step away from that. It's not particularly me. Colour wise when I first started I used to mix up the colours, I did not want to do all green or all blue or all red. Everything ends up being bespoke with colour, you make many different combinations. Someone inevitably says I like that one in that colour. I got bolder as I got older and said I will do a few but I work around a few colour combinations, blue or red.

CR It is very blended and subtle.

KM That was a change a couple of years ago, making more abstract simple pieces, changing colour tones to be more expensive looking colours.

CR Muted tones.

KM I used different types of colour and resin. I used to use a general purpose resin so it is already cloudy, not water clear. You can never achieve the lightness of light emitting acrylics. With the water clear resin you do get problems where it goes slightly yellow rather than it staying bright bright white. That will be down to how much catalyst has gone in and I tend to keep it low, I am a stickler for not putting too much in. It gets brittle and you get stresses up within the actual plastic. Air temperature and speed it goes off at affect it as well. This summer was really difficult as the air temperature was really hot. Things were going off in less than 5 minutes rather than having a working time of 15-20 minutes. I think that must add to it. It's funny how they look quite different and whether that's also to do with the threads that push the colour out. I'm sure it's down to the mix.

Canonbury art shop, he is very keen on plastics and I went to look at non-toxic plastics there. He had lots of products and Smoothon which is an American product and he assured me it had been left in the sun for years and years and hadn't yellowed, but I don't completely believe him.

Coming back partly to the use of plastic. A shop in Brighton who did a lot of jewellery in the mid 1980s and I used to go down and have a look. That was partly an influence, I remembered their work and liked it. He said quite often people would say eek! £50 for a necklace and he would point out the cost of their shoes asking how long do you expect it to last? With jewellery it's forever and a pair of shoes you spend a lot of money but you expect them to eventually fall apart. That's the same. I would like it to last but at the same time with the use of materials I have that attitude that I don't mind restringing it but it is an experimental piece and if you wear it all the time it will wear.

CR Did you think about longevity when you made them?

KM Longevity? There is too much pressure when you are at college to really think about that. There is more a drive to create something new and different. There is a jeweller currently using sugar by growing crystals onto gold wire, she puts them in a tank; they should last a few years.

CR Do you think jewellery should last?

KM I think there is a general feeling that it should last. That romantic side of me that my beads will be found in a grave somewhere, they last thousands of years but on the other hand there is an awful lot of rubbish in the world. There might be one bead that is found in a hole perfectly preserved, only a few pieces survive. Some nice conservator might look after them well.

CR What about your surface characteristics, are they particularly important to your work?

KM One of the things I do like, an influence of the 1980s. At college they did not like a bright shiny surface, polish was awful every thing had to be matt. So I steered away from doing polished plastic and it was also a nice quality like a piece of glass on a beach where it is very matt and lick it to get the colour to

come out. I think I found quite quickly that although it is matt, it will shine up with wear, but I prefer this polish though. A patina I suppose I would call it, it's through handling and it polishes up that way, what I call a hard polish. Can you see the difference, it just looks loved? This is more of a hard finish. A woman had a beads bracelet with lost elastic that was getting baggy but the rubber rings are fine and her is fantastically polished up, patinaed up. Very soft and tactile that what I really love about this. The thing of touching and feeling is important.

CR Is there a difference between patina and damage?

KM Yes, there is a distinction. To me patina is gently absorbed oils, rubbed against your clothes, something soft about it. But I climbed a wall in that and there are definitely scratches on the surface- quite deep. They don't show up too badly.

CR I heard David Poston say that he thought jewellery quivered with life once it had been worn?

KM I almost prefer these pieces when they have been worn and they have a history to them. It implies intimacy, bigger scratches look like they shouldn't be there but slightly smaller scratches look like history. I prefer that side and absolutely restored to how it was when I finished it off.

CR Is resin difficult to work with?

KM At the beginning possibly because I wasn't given enough information and I could not find anything.

CR How would you react if someone said plastic jewellery takes no skill?

KM It's a coming together of everything but I do get a bit annoyed when people say you just pop it out of a mould, because there is a lot of finishing. I always find it difficult on foundation, on 3-d work. I could add a material, that was not a problem, but having a block as a sculptor and having to take material away was hard. I have got much much better at that. It's removing the material knowing exactly where to cut something. I don't file them up any more but that initial

shape is making art that is quite pleasing. Papering afterwards, I've had students who don't put quite the same elbow grease into it. It needs rounded edges. It's not a material suitable for hard edges, I wouldn't try to create something that angular. I think that's why I'm not very good at being symmetrical.

CR The limits of the material set parameters for your work.

KM Yes, it works both ways. I like the challenge of having a liquid and trying to contain that. But I have found a material that lends itself to how I want to formulate my ideas. Sometimes you don't do it consciously. What I did at college was dyeing marble. I love the colour and finish on marble, similar to resin in finish. That said I should move away from that and come up with my own material. The resin I used as binder to make the terrazzo, so I didn't really think about it but I could colour it to suit the stone.

When I finally discovered how to cast silicon rubber – these cufflinks use the pliability of the rubber. After Middlesex I got £1000 from the Prince's New Business Trust and I bought stone cutting machinery. But at Glasgow I couldn't continue this so I took the opportunity to try something else. So polyester resin as I still liked the colour. There are health and safety issues though. So it was a practical decision in a way. I also used silver, copper and a variety of non-precious materials as well as precious ones. I always tried to do two collections like this and this is the bread and butter one, as the resin was very easy to cut but it came down to shape. I am trying to make my own language with the shape. I feel I am moving away from that now, I am moving towards colour and simple shape rather than artistic form. Bangles with indents, I am still trying to make it a little different from a plain tube where its got the step. Pieces are actually joined up together and they get the light coming through and transparency. That's how the threads started, I really like transparent resin but wanted to keep the colour and it was a eureka moment. Not quite sure I am going next though.

Certainly lots of exhibitions I saw when I was younger like Jewellery Redefined, they all had an influence. I was doing evening classes and we were encouraged to go up and have a look and see what's going on. If you really want to go to college this is the sort of thing that's happening. Susanna Heron with her big circular pieces in stocking material, I still remember seeing them on the wall.

CR How do you get your work photographed?

KM Pretty badly is the answer. I have always tried to do a bit myself and I just couldn't afford to get a proper photographer until a woman who was a collector started buying. Her husband is a professional photographer and she said why don't you try them, and gave me a good rate.

CR Are you portraying them as sculptural objects with transparency and line?

KM Yes a quite conscious thing with those pieces. They were in the Crafts Council Gallery shop window, the thread thing.

He (the photographer) did not like them when he opened them but he said the more he looked at them the more he understood what was going on and they were fabulously sculptural. I was pleased with what he had done. The photographer is putting his mark on the photographs and collaboration between me and him. I would like to do a jewellery exhibition where they are just being worn. I suppose that's something handed down from college, jewellery is something to be worn. My tutors at college were Caroline Broadhead, Pierre Degen and Ros Conway. They don't really make pieces for the body anymore but I still like a piece that is to be worn. I like it to be worn, tactile.

CR Work on display in museums, is something lost because it is not on the body? How do you wish your work to be displayed?

KM A difficult thing, I think as simply as possible. If there was an attempt to display as worn then that would be nice, a nice piece of fabric, coloured or piece of clothing for a brooch. My work is for observers not the wearer, a piece would need to be moving around.

CR Would you like to be consulted on such matters or does your responsibility stop when you hand it over?

KM Sometimes it does and I don't want to know any more. I try to be discerning where I sell it, to prevent me not liking it. I could comment on this quite

legitimately as I have experience. In a collection that is someone else's remit unless it's really dire.

CR Is there a danger it will be misinterpreted?

KM I quite like that idea it becomes someone else's, a history to it. I had to learn early on you have to let it go. Things I am not happy with but make other people happy. In the Crafts Council exhibition there were these brooches I didn't like but everyone picked them out and they all sold. More recently I have had people turn around and say, those are awful, really not you. Some colour combinations take me a while to get used to them. Green and light blue, but it grows on you, I like that about my work as well. Growing up with it.

CR In a museum if your beadwork became reinterpreted by the beads moving around, does it matter?

KM No, in a way I made those pieces the little rubber rings are not fixed and I always said they were fiddly necklaces, you can move them, push them to where you want, like worry beads. One of the influences came from the knotting language of the Inca Peru knotting system. I made them equidistant when I sold them and I quite like the randomness of the pattern too. I knew I would look at them and say oh my gosh that doesn't look right and I'm sure many would do the same. Ultimately though I would say I will just repair that for you.

CR Is replacing elements ok?

KM Yes, but I don't use rubber any more and I'm beginning to run out of raw materials for mending. Procuring them will be problematic so do I say I'm sorry that's it.

CR Are you able to accept they may have a finite life?

KM Yes, but then again I do try. People have a lot of association with pieces, they are sentimental to people. I would try and restore it.

CR Do you like the idea of your pieces having greater longevity?

KM Yes, it's quite nice. My sister did an engine search on my name and I was well known here and there and everywhere and I didn't really know. I have had people say oh you are the Kathie Murphy. I don't think I set out to do that, only to be good at what I do. I don't think I get there although I am quite lucky on timing. There are not many people using resin – it had been used though Susanna Heron and Peter Chang. He was using it, I remember seeing his work at college and hating it. It looked so old fashioned but now I have worked with the material and seen what's gone into it. I quite like his work.

CR Do collections represent jewellery adequately?

KM Liz Goring's collection at the National Museums of Scotland is the only one I've seen. They are not particularly well publicised. It was nice being bought for a museum.

CR Does it add value to your work in all senses?

KM Not for me but for other people. In the long term I think it can. I don't think they had made mistakes about who they had bought but I think they had made mistakes of the pieces. There were not particularly representative of that persons work. It was a small corridor and there was not much there. I guess the heat from the place will dry them out, they will go back to looking like stones on a beach and the colour fades. I use moisturiser and baby oil to rub into the surface but after a couple of years not worn just sitting it can lose its sheen. A piece in the Aberdeen collection has done that.

CR The material is very dependent on human interaction?

KM Yes, I think it is. I always used to rub my forehead to see what the colour is like, the oil brings out the colour.

CR Do you tell people this when they buy pieces?

KM More so now. The thing I don't like about hard polishing is that it will show scratches more and that's why I like the finish where it is barrelled in pumice, a soft finish not hard matt. When people buy oxidised rings I say it won't stay like

that, the shiny and matt meet somewhere in between. The pieces in the museum would lose that quality of having been worn.

CR Have you had dealings with a conservator before?

KM No, I thought about conservation more when I met someone who did your course a few years ago and I had not really thought about the fact pieces need looking after. I loved chemistry at school and I have read Colin Williamson and Anita Quye's book.

Lesley Strickland (LS)

12th January 2004

Interviewed by Cordelia Rogerson (CR) at her home/ studio in London

CR When did you first start using plastics in your work?

LS I started working with acrylic in the late 1970s. I was at the City Lit and silver was incredibly expensive then. Really expensive and that was why I started working in plastics rather than silver. I like the colour but the cost was the main reason I couldn't afford silver.

CR Were you influenced by those around you fellow students, tutors?

LS My tutor yes, lovely lady, Jennifer Pike, who was heavily into experimental jewellery making. It was called an experimental jewellery course.

CR You were encouraged to look beyond traditional jewellery materials and methods?

LS Yes, it was about 1976. I was just doing it for fun. I was making earrings, sheet forms and cutting it, I wasn't using rod or bending or shaping it. Just cutting out shapes from 3mm acrylic.

CR Were you taught methods or did you work them out as you went along?

LS I was using not unusual jewellery making techniques. I was cutting, and sanding it by hand that is all.

CR Were people surprised by the use of plastics?

LS Then few people saw it, because I had not planned on having a business. I was making things with brass washers and trade beads as well. I got a stall in Camden Lock and I started to make very art deco influenced work. I would spend hours looking at art deco books and made a whole range that was very 1930s.

CR When did you move from acrylic to cellulose acetate, which you now use exclusively?

LS About 15 years ago, because I had been working with acrylic for 10-12 years and needed something to move on with. Cellulose acetate was softer, I could heat it more easily, the colours were nicer.

CR How do you heat the acetate?

LS With boiling water that is all it takes. I use acetone to fuse it together, it's a terrible job.

CR Was surface finish also a stimulus for you as you have a specific surface finish?

LS Yes, cellulose acetate feels completely different from acrylic. It's warmer and softer that was why I was into it. My work is completely different with it. Acrylic is hard, hard and rigid and the designs are clean cut, triangle and squares. And when I found this, it was much more me, much more soulful, softer. It also coincided with becoming a mother and it was a more womanly thing, there is an emotional attachment I suppose.

CR What are the influences on your designs?

LS There are artists that I like, Hepworth, Brancusi. I guess my forms are reflected in that. I never actually sit down and draw anything. I play with pieces and cut out pieces from sheet and play. I will heat and bend it see what I can do with it and if that doesn't work then I will do it again. I work in paper sometimes, I play with that and fold it. I bend everything by hand.

I bend sheet over this, [wooden obelisk type structure] and I heat it then bend it and twist it and lift it and bend it. I get it where I want it to be. Every piece is slightly different.

CR [talking about her LS bangle] The thing I like most about this bangle is that you can hold your hand flat.

LS Oh yes, I didn't realise that. It looks so nice like that but I didn't plan it like that. The first time I made it I went to a party and I put bangle on after I put my coat on. I got to the party and could not take my coat off over the bangle.

CR Have you had to overcome problems with manufacturing with cellulose acetate?

LS The heating techniques and the barrelling. They are barrelled in pumice. They are filed and sanded but they are quite lined and then that goes in the barrel for a couple of days to get that finish.

CR What skills do you feel are involved in making these specifically?

LS Patience and skill in general to see the line. I have had a few different students come to work and some find it difficult to see the line. Maybe they don't care that much about it but to actually see the right proportions is difficult. I don't know how to set stones I never learnt to do this. But these are skills I would still like to have and maybe one day I will. I have really basic skills, I can cut out, file, saw, solder. I have taught everything myself. No one has taught me how to construct something really precise, like a box or something similar.

CR Is the material telling you what it is capable of and you have adapted it that way?

LS Yes, pretty much. There is probably a whole bunch of stuff I have not done with it yet. I could do some surface decoration and I was thinking of sandblasting some areas to give it some pattern but that would take away from how it feels. It wouldn't feel so nice. So that is mostly what it is all about. I did do some samples with a bit of sandblasting but have not taken it further. I have used striped and patterned material too. A lot of the material is very old, they don't make such interesting colour and combinations any more. I have a really lovely yellow and black example. I went to a factory that was closing down and picked up piles of this stuff. So it's nice for those who have that. I actually thought about getting some material made for me but you have to have so much.

CR Is this always bought in sheet form?

LS Yes and then each piece is cut out. Some people think that plastic is worked in moulds which is completely different.

CR You always put a little mark on your work in silver.

LS I do but that is partly my husband's fault. He is the marketing man and we thought it would be a good idea to have a logo and a friend designed it for me. When we first got them etched onto those silver dots I thought I would put it discretely on the inside but I was persuaded to put it on the outside. People do like it, but I am happy to do without it. It is on the boxes too.

CR Have you considered using any other materials?

LS There was a time when I was using a mesh a sort of brass mesh which I could bend and fold but I prefer plastic. The feel, the texture, what you can do with it. The bulk as well. I have quite big hands and I find it hard to make intricate things and I don't have that kind of patience. I have patience for making it right, sanding and sanding like a meditation but no patience for fiddly little things.

CR So it's reflecting your personality as much as anything.

LS Yes, it is.

CR Do you consider that you have a free sense of value in materials?

LS Actually cellulose acetate is quite expensive, surprisingly expensive but yes it is not as expensive as silver.

CR Do you add value by working it?

LS Yes, definitely. There are companies who use cellulose acetate for making jewellery and it is I think they punch it out of the sheet. Some of the materials I use I have seen in John Lewis. And it has none of the same kind of qualities, because each piece is hand finished and sanded it feels different. The

manufactured work has a very shiny surface and it looked as though it had no value. It looked cheap.

CR You create a very rich surface. Are you imparting a sense of preciousness?

LS A bit, it's special, it's my input that does this. It's not been said to me that it is just cheap plastic for many years. I had a stall in Covent Garden for twenty years and there used to be a lot of that, why is it so expensive it's only plastic. But that is from a difference audience to now. These are not mass produced pieces. It sells in Lesley Craze and places like that and people appreciate plastics more now and they are quite educated. I used to sell through the Design Council in the Haymarket in the early 1980s and there were a whole bunch of us who did, plastics, dyed aluminium and we all did really well there. Lots of resins as well. Caroline Broadhead and Nuala Jamison I think. But the people going there were interested in design. There are going to be people who would never buy plastics, and it's not platinum, but I don't have that attitude.

CR Is wearability an important concept for your jewellery?

LS Definitely. I design with the body in mind. When I design earrings I try them on all the time so see how they are sitting, and where to put the post. Does it sit nicely on the wrist does it sit well on the chest? The only thing I am rubbish at is necklaces so I am actually going to buy a bust, a metal bust, because that is what I have to work on this year. I think it is due to a lack of knowledge in connections. I have made necklaces but just getting them to sit right, they spin round. To make something with lots of pieces is very expensive.

CR Do you envisage your work being worn? Is this a sculpture when off the body?

LS Yes, people say that to me, particularly at Chelsea [Crafts Fair] and they will say that is beautiful that's lovely but they put it on and it is not them.

CR Does it reflect their personality then?

LS Some people have a certain kind of look and used to wearing a particular kind of thing and they can appreciate its appearance but it is not how they would normally present themselves. They can't carry it off.

CR When your objects are photographed do you prefer to see them as objects as they stand or as jewellery in the body?

LS I prefer them as objects. I think they are strong enough to stand up on their own. I would find the body too distracting. I have never photographed my work on anybody. Maybe it's because my pieces are very sculptural. When I create slides I think, ok which angle I am going to photograph that from? I will spend hours trying to decide which angle should be photographed, just holding it at different angles and thinking how is that going to be. I know exactly what I want.

This material is thicker at the bottom and I wanted to show it is lighter at the top. I photograph them to show them off at their best. I work with a photographer and he would probably say I bully him because I know exactly what I want. I go in and say I want it exactly from this angle. I am the nightmare customer.

CR Do you make your jewellery with specific people in mind?

LS I do actually. I design for myself firstly then I design for friend in mind. I think about good customers too. My main thing in the year is Chelsea and they want something new. I have hundreds of repeat customers and it's really nice.

CR Is your jewellery meant to last?

LS Always, I am not interested in fleeting fashionable things. Jewellery is subject to fashion but what is nice is that people will move with me. I still see people who bought my old acrylic work and then bought my very early acetate things and then they move with me. Sometimes they don't like what I have done but they might like the next range and that is really satisfying.

CR So ideally you would like your work to last beyond this generation to the next?

LS Yes, but I don't know how the acetate stands up. I know there is some material, particularly this yellow and black striped one, and what is curious is that sometimes it shrinks. The spiral bangle, some people come back to me and say I don't understand, either it's got smaller or I have got bigger. They assume they have got bigger, my knuckles have got bigger as I get older but the spiral has tightened up a little bit. It has become a little brittle some of it as well.

CR It is solvent and plasticisers moving out. Should jewellery in general last?

LS Most jewellery is metal so it will, but yes I think it should. My mother has had many things remodelled with the explanation that she would not wear them otherwise and if I get them I will probably do the same. It's quite nice that they are constantly changing. So I don't know how long it will last. Something like that should last though.

CR Would you, in theory, like your work to become heirlooms?

LS What a lovely idea yes. I would like it to last, some of it will be twenty five years old. If the next generation wanted it. It is not there for a season to be thrown away.

CR Would you like to have input in your work after it has left your side?

LS Not really once it's gone it's gone.

CR If your work did change does that represent a problem for your aims, if it lost that tactile nature?

LS It's difficult. I like to think it is going to stay like that. But if it were a piece of silver it would easily get marked and misshapen. You can't expect everything to stay the same. That is part of getting old, things change. I think it is acceptable.

CR Is there a difference between acceptable changes and non acceptable ones?

LS I think a change to shape is less acceptable as the material changes. People have a different set of rules about jewellery. You buy of piece of ceramic, which

could be very expensive. It might get knocked over and it's gone. You might buy an expensive pair of tights and wear them once and they are gone and yet with jewellery it is meant to last forever. It's a funny one. The preciousness influences this. If the material does not stand up to it and it warps and distorts then it's going to have little value.

CR Have you had work sent back to you at all that is broken?

LS Yes, a lot, posts come out of earrings and so on. I have not done enough research into what will happen with it. We shall have to wait and see. I put a lot of myself into my work. Occasionally I see people wearing my work and it is always a thrill.

CR Do you wear your own work?

LS Yes, I do. If you don't wear my work they get quite dull on the surface after a while. I have had things sitting in a plastic bag for some time it gets a white bloom on it. I can rub it off.

CR Solvents and plasticisers will be migrating out then.

LS I remember Sylvia Katz talking to me about this some time ago, she has a couple of bangles. But also people because they don't understand they will put perfume on it. Some material is worse than others. Some of the mixes have a worse reaction, it seems to be pigments and age. I have a customer who went swimming everyday in a chlorinated swimming pool wearing it and did not take it off and it just shattered eventually. I have the bits somewhere.

Wendy-Sarah Pacey (WP)

1st March 2004

Interviewed by Cordelia Rogerson (CR) at her London studio

CR When did you first start using plastics?

WP College in the second year plastics project. Which I was very pleased about because I always know I wanted to make plastic jewellery.

CR Why?

WP I've always loved plastic things since I was a kid. Most of it is to do with colour, as I adore colour. Most precious jewellery gains colour from stones and although I love precious stones I don't think I could produce anything different or new in precious stones. I always knew I wanted to make a business out of it. My aim was to produce something to make a living, so it needs to be a bit different. The scope is not there with precious stones. They come as they are you get unusual shapes but that means travelling extensively, India places like that.

It was my perceived versatility of the plastic. I do think I have done something different with it as I mixed it with a different material. But with the projects at college we could use sheet acrylic or resin and I went for the sheet because it is to do with the reflectiveness, refractiveness. When you get a large lump of Perspex to me that's not that much different from a lump of diamond. A huge cut diamond, it's clear, it's transparent, it's got facets, you can do that with Perspex. True you won't get the same light and fire from it but in essence the simple descriptive words, solid, see through, clear is much the same thing, cheaper too!

CR Is that an attractive quality?

WP In some ways yes it is because it is the aim of my work. Peoples' image of plastic jewellery comes further down the scale than precious jewellery but having said that it's people who don't know about contemporary jewellery. Others are much more informed, two different groups.

CR Your ideas are important?

WP Yes, absolutely. They don't have the snobbery. When I have been to Ra, Smit, Marzee galleries (The Netherlands) I am always thrilled because they all sell jewellery made from every material under the sun. There is probably a lot less precious jewellery than there is non-precious. People are not afraid of it at all. They accept it totally. In their galleries there is a difference.

CR How important are galleries over here?

WP There is a very good base here but they do have to rely on the customers. Because I sell in places where people understand what they are buying I never had any problem. I make a living from my work and this is an achievement.

CR Does your material fit your design aims or are you conveying a message in your work or both?

WP The main point has always been to make the plastic look precious. I could not do this with precious materials. I love the stuff and whenever I speak to my customers I think I have achieved my aim, Chelsea (Craft Fair) particularly. Most people think it is glass or enamel or even stones. 2% of people know it is plastic. I love the ambiguity, it means I am achieving my aim. They are amazed plastic can look like that, which reinforces the idea people don't have a particularly good view of plastics. They don't expect it to look as nice as this. I don't want it to look like something else but just make plastic look good. I am proud it is plastic and I am glad I have fooled them.

CR Is the material very cheap?

WP Not especially. I guess my materials cost is low because I only use small amount. A 2 x 3 metre sheet is £200.

CR Are you adding value to the plastic through your labour and ideas?

WP Absolutely. Everything I make I don't include the cost of the materials because it is not worth it. I base my pricing on my effort and labour. It's the

essence of me if you like. At the beginning it doesn't look like anything and I turn it into something covetable.

CR Have you developed your methods yourself?

WP Yes, through the plastic project and through experimentation. A big block of Perspex to me is gorgeous. The resin didn't have the same appeal. The hardness is good on the sheet, you can work into it. My layer pieces I've carved away at it. I do make an analogy with precious stones, I do treat them as stones. When you make them it's similar to getting precious stones from the earth, carve them down. What I do I build up layers of Perspex and foil, heat it up and put it in a press. I don't see the final result until it comes out. When I do a new combination of colours I don't really know what it will look like. It's similar to finding a precious stone. The reason everything I make has a curved surface is because when I change the surface from a flat to a curve it does make the light reflect better. A piece of rough diamond doesn't look anything either. I do use machines to save time. I use a sanding disc then it gets filed and sanded by hand and polished, so it's the same as a stone. I love that. When the light hits it, it's so nice.

CR Does the colour just come from the foil?

WP It comes from the foil and the Perspex. There is coloured sheet in the middle with foil both sides and transparent sheet on top either side. Some are iridescent.

CR At Chelsea Crafts Fair recently you told me you were using gold in your work and that felt wrong, why?

WP The same process it used but with gold foil and a gold pin, this is falsifying the preciousness. But I think it's ok. The reason I am using it is for the effect not the preciousness, the colour. The difference in the patterns is the thickness of the foils and that is quite hard to come by. I wanted to use earthy colours so I thought I would use gold leaf. The long necklace I have just made has actually got gold and precious stones on it. I have taken it a step further.

CR Are you slowly creeping into precious materials?

WP To be honest I'm taking the piss a bit. On this necklace it took about two weeks to make. Each bit of plastic is a different colour, each is a different shape. The piece with the gold and the stones, I bought the collars, stones and gold and took it to a setter and got him to do the work. I did not touch the gold and I'm not interested. I don't know how to do it and I'm not bothered. I'm more interested in plastic. There is a lot more plastic on it than stones, and in a way what I was trying to do is say the time and effort and design is in the plastic not the stones. I just bought them. You can't see the stones that much, they are very small, marquee shaped 6 x 3, they are tiny accents to the piece. The necklace costs £7.5 K and at least 80% is the plastic. There are some on the earrings as well.

CR Does the value of your work change over time?

WP Yes, mostly to do with association of name. That's been proven historically if you look at painters like Van Gogh, he died a pauper. I think it could happen. I'm not bothered about collectability. I don't know what makes a piece collectable, it's what they like.

CR What about museums?

WP I've just had a piece go into the National Museums of Scotland, my first major acquisition. I was really pleased. It's more to do with the preservation of historical things. I'm very interested in old things anyway. It's important to preserve things to show what was made at a certain time.

CR Would you like your work to become heirlooms?

WP That would be great. I have some bits of my grandmother's jewellery, it has sentimental value. It's not about material. I think it's a lot more interesting for contemporary jewellery to be passed down. There is only so much you can do with a stone. Plastic is so much more versatile.

CR Is wearability important to you?

WP Yes, they have to be able to be worn. With my exhibition work they can be less wearable but they can still be worn on occasions, but slightly awkward. I don't sell my exhibition work much, I make them for myself.

CR Can jewellery be understood off the body?

WP Mostly yes it can. Some does look like sculptures. I am into that idea but for the most part I want things to be worn. There is a way to wear them.

CR What about work in collections that is not worn or touched, does it lose something?

WP I like it because it's good for my profile and also means people will get to see it even though they don't get to wear it. In a museum it will get seen by a lot of people, so you have that. It would depend on the piece as well. A production piece in a museum I would not be so bothered as others do wear them. With this bracelet I have only made one and it has bright colours so it does work well on its own. When it's on it would move up and down the arm and the colours would catch in the light. But still when people walk past the case they will see it changing colour. You will still get a sense of it. Another piece would not be so successful. I would feel sad about it. I would not stop them from having it but I would like to talk to them about it, ask them to put some text or a picture of it. I would be sad if it were a piece that did something when you wore it. You couldn't see it. But I do think it's important to collect pieces over the course of a person's career to see what they have done.

CR The photographs of your work are always taken off the body.

WP Now I do. When I first started they were worn. But since I have discovered people request slides off the body.

CR And what is your perspective?

WP My work is hard to photograph anyway because it's all about light and colour, it's so reflective. It does look better off the body, the body interferes with the work. I think that is specific to my work, simple bold shapes. Ears are the worst. People are drawn to faces but I don't have a face in it any more.

CR Are you trying to show light and reflecting qualities in the images?

WP I really want to get the qualities of the work across. I've often photographed things when they are not finished. Some brooches didn't have pins on them and the shapes were Bluetacked together to get the right angles; so I could lay them flat and change them. After that I made up the brooches.

CR Is jewellery meant to last?

WP Personally I would prefer it to yes. For me it to do with sentimental value mostly. It very bound up with emotion, ownership and passing it on.

CR Do people leave an imprint on jewellery?

WP It is to do with the person, my grandmother's jewellery and clothes, objects. I have a ring of hers but it didn't mean anything because I didn't ever see her wear it. It's gold and diamonds, she had other rings she wore. I keep it though. I also have a powder compact which is something to do with the hands and face but I never saw her use it but they are not that important. A little brooch, cheap, she wore it a lot on a coat and that's much more meaningful and a gold bracelet that was a present from my grandfather; association is important.

CR Can you define ephemeral for me?

WP I would find it difficult to own a piece of jewellery that was not going to last.

CR Something you bought or something you made?

WP People who make jewellery that are stickers and you only wear it a couple of times, I would find that very difficult. I wouldn't wear it. I like the idea and may well buy it but I wouldn't do the wearing and throwing away. I couldn't do it. I would keep it.

CR Do you want your jewellery to last?

WP Absolutely.

CR Is this reflection and sentimental associations with your own work?

WP Yes it is. I know some people are not that fussed. They are much more able to make things that are not meant to last or made of things that may well crumble or fall apart. I couldn't work like that. I actually find it really upsetting.

CR You are putting yourself into the work?

WP I don't feel as though I am doing it when I am but I guess I am. That's made me feel quite upset.

CR Do you have a sense of loss when you sell your work?

WP Some pieces I would be so torn and I would feel it difficult to sell them. Production pieces not.

CR If you sold an important piece would you like to be involved in its future?

WP I would like to sell to someone I know and that it's going to a good home. I would want to chat to them and get to know them and take their address and find out about them. I would find it hard to sell jewellery to someone I did not like, very difficult, they won't take care of it. I like it when people are repeat customers and they admire my work and it is special to them.

CR Is it appropriate that people can interpret your work in their own way?

WP My production pieces do not have deep meanings. It is decorative wearable jewellery, about light and colour but not conceptual. There is work where the concept is more important. I am not especially happy for people to put their ideas onto my work and endless arguments. But when I design something it is about what I say as I made it, for a reason. You can think what you like but you are wrong and some have a real problem with that.

CR You refer to critics and art historians?

WP I am happy to hear peoples' opinion as I am sure sometimes I may agree with them. But I object to reading things into them because people think they should. A writing about my work that was made up in this way, I would be livid and it's not true. I would complain, I am quite uptight about it. Others say you should let them think about your work. I would like to have text next to it explaining what the work is about. I don't want people going away with the wrong idea. I've always had plastic jewellery, I've got loads of plastic items.

CR Are you aware of any damage on your items?

WP I don't think so no, perfume or hairspray on plastics is not especially good for it. Even when I make stuff I use a chemical to bond them together and that crazes the surface sometimes. I've been going for about 5 years now and I've had nobody come back and say that looks awful now. I use Perspex that is guaranteed for 10 years, after that I don't know. I would expect them to have a lifetime worth of use.

CR Is that how long you would like your work to last?

WP I would like them to last forever & ever & ever but it does depend on what things are. Financially I would like the customer to get a lifetime of use or as long as they wanted it. It does really depend if they wear it all the time or on occasion.

CR If it suddenly became scratched or crazed would that be a problem for you?

WP Yes it would. If it made it look not as nice as before then yes I would not be pleased about that. It would depend on the extent of it, if you could understand it still. Wear and tear is different, I'm not so fussed about that.

CR A patina from wear?

WP External wear and tear caused by people is ok, that is bound to happen. If it got scratched I could re-polish it for them if that is what they wanted, that's fine. But if something started to look ugly and discoloured that would be a problem.

CR In a museum if a piece got a little damaged should it still be displayed?

WP A difficult question. From an aesthetic point of view I would want to mend it. I would still want it to be in its original form and glory. When I'm not around that going to be very difficult. If it could be fixed I would rather give it a go.

I do like old objects and sometimes they do look much better when they have been aged but at other times this is not the case. It depends entirely upon the piece. With my work it does need to be in the original state to appreciate the colours, shine, light and shapes. I would prefer it to be restored as it were. But I would be perfectly happy to put some blurb up to say this is made of acrylic and we don't normally restore it. I think that would be quite interesting. I don't mind things that have been broken and repaired. It's purely about the aesthetics, what looks nice, that appeals to me. When you are buy a piece of jewellery you are buying a piece of their mind.

CR Would you like to be consulted about your work?

WP I think you should respect what they (artists) think about their piece. If you are going to tell others what this piece is about – only they know what it's about. As long as they can explain it to you adequately then that is the main thing. Museums are about preserving and educating so if you are educating you need to see it right.

CR Do museums show jewellery adequately at the moment?

WP It's quite hard to say. I have not seen my piece on display yet. I don't know if it will be displayed permanently. They have so much more in there than the collections on show.

CR Do you feel, as I do, that museum displays tend to be dry and lacking?

WP It's a real problem with jewellery. I would love to see an interactive jewellery collection. They are meant to be worn. It's heartbreaking but I realise it's not the correct thing. You could buy several for the collection and when one is damaged others could be used. Put that to one side and start on the next one. But with one off pieces is really difficult, I do feel for them.

We went to see the Cleveland collection (mima) just before James (Beighton) started and Julia (Palmer) was there. We got to see it because we were doing a project and I did not know the Gijs Bakker Dew Drop necklace was there and she let me put it on. I thought I can't believe I am wearing it, I can't believe I touched it and it's the one in the book.

CR It was originally a handling collection and now it shows damage as a result.

WP It is a real nightmare, a handling collection of production work is ok because there is more of them and you can buy five and start on the next one. But one off pieces are more difficult. But there are some pieces that you just want to touch.

I was nearly crying when I touched it and I asked is this the actual one that's in the book? She said yes – oh my God – I had tears in my eyes I was so excited, it was amazing, absolutely amazing to wear the pieces in the books.

CR Do you think the necklace valued because it is published so much?

WP Yes I think so. Some pieces you see all the time. I love the piece anyway because it's a flower and I love flowers and I think his work is great. It's ones of my favourite pieces and yes if you have a really good image that's about a lot that's useful, particularly as a student. There are pieces you know who it's by and what it is. It's because it's an historical piece as well. For me it's the history of the piece that is significant as well. It was made when I was five or six and the fact that it has been in the book and a classic piece and it's right there in front of you. The most amazing thing.

CR How does your own work fit into the history?

WP I hope I will stay in jewellery and be there for most of my life. I would love it if someone thought about this piece in the way I thought about that piece (Dew Drop). That would be wonderful. It is important to try and get a few pieces into collections so people know you existed and you were part of the contemporary jewellery world. The main thing is that people like your work.

CR Do you think you are taking acrylic to a new level, a new application?

WP I would like to think I am in some ways. It's difficult. A lot of early jewellery is carved, back carved, intricate work. There are people who stick it together or stick something on or whatever but I don't think they are adding much new to the material. The material I use is greater than the sum of its parts. When you see the raw materials you think ooh that's a bit of plastic that's a bit of foil, it doesn't look anything much at all. When you put it together it does become something different.

I want to work out a way of setting gemstones in plastic, like Bakker's diamond and PVC pieces. That is my favourite kind of thing but I can't afford to put my own ideas into plastic. I can't afford the materials but this is my kind of conceptual work.

Adam Paxon (AP)

19th March 2004

Interviewed by Cordelia Rogerson (CR) at his Glasgow studio

CR What do materials mean to you?

AP I wasn't interested in surface finishes primarily. It seems slightly fragile and I didn't necessarily like that. I didn't like the idea of colour being an end stage. Instead dipping into colour in all different ways using it as an exploration with the material, a guiding thing rather than an additional lustre. The fact that materials are considered reasonably cheap, even throwaway, was an advantage.

CR Do you see plastic as a cheap material?

AP Within the remit of understanding jewellery yes. In a gallery they have a generally different price points they can bear. I've asked myself this question on numerous occasions – if I had chosen to work with gold would I be sitting here with new approaches in gold? My making approach is to find new territories for things, particularly materials and techniques. I chose plastic certainly because of the inherent colour and desire. We link to colours that we find attractive and desirable, things by their colour alone. Anything to do with wealth, durability, connection to place, person anything, we have a relationship with things solely through their colour.

CR It alters our perception of things?

AP I think it does yes. I'm interested in the territory that glass can operate within. I've often been asked and I wonder myself if I am a frustrated glass worker. I have a project in the pipeline that may happen that would involve working with someone with glass.

CR Do you see similar qualities in PMMA and glass?

AP Transparency drawing you to the surface and colour. Glass as a medium will forever be humble and good. Walking on a beach it is a simple idea to turn this with heat into a material we understand in all kinds of ways. Amazingly glass has been used as a commercial product yet the high end market of glass can rocket,

it has that spectrum but essentially for me glass is always humble and good. Plastic is interesting in the fact that it has got that scope to it but it's got this whole other territory which it to do, in my mind, with irrationality or perhaps as it is a manmade material that leads us all the way to repulsion. The material has that to it which makes it for me almost more attractive than glass because you have greater remit to play with references.

CR To challenge people with plastics?

AP There are elements of wanting to provoke a little bit. I think that there are almost common forms which both attract and repulse in varying degrees depending on proximity and that can also be played on with colour. Something very attractive on close observation has an oddness or eeriness, which can lead to insecurity with it which is heading towards repulsion or just the fact that something is quite large scale can be all about attraction but it can engender a feeling of difficulty because suddenly everyone is looking at you. That's not always comfortable.

CR In your lecture at the ACJ in Manchester 2003 you said you didn't always want to be looked at. You attract attention by wearing your jewellery but don't always want it?

AP That's one element of it. I think the material has that on its own, you could possibly argue colour has on its own and form does to. You can separate all these things but many things, seem to me, play on this attraction repulsion thing this material can offer.

CR Are there many layers of meaning in what you are doing?

AP I've realised looking back that very important. Hindsight is such a wonderful thing. I think I'm getting better at being close to the time frame that work was actually happening in, actually understanding it.

CR Your reasons for using plastic remain similar to your original rationale, but your ideas are also still progressing?

AP The pieces have become more 3-d and even techniques I used to reduce weight from the inside. I laminate sheets to get colours to blend together, depending on how stressed forms will be later with heat and solvent. So I laminate these colours up to bleed them but then by removing material you effectively remove colour, which gives a handle on that. So there is a link between colour and form which is quite naturally there and these techniques become more considerate for colour and illusion into the surface.

CR The exterior is quite smooth, the interior is bubbly. [Squirming Brooch]

AP I am trying to draw us completely into the surface, virtually eliminating colour in some pieces because I am more interested in coming into that surface. That is not an illusion it's a deliberate setup. It reflects the hand and you can see through it to your gaps between the hand. This piece was much more about whether they were harmless sensors or feelers and whether there is anything aggressive in there. Playing on colour in reference to the fact there might be an aggressive stance being taken. The addition of movement is something I cannot avoid, the sound is a happy side effect.

CR There is a mirrored surface on the reverse playing with reflection, is this deliberate?

AP Yes. As taught by Pierre Degen a brooch does not have a back, it really has two fronts. I still can hear him saying that and picture the studio where it was said. That point resonates throughout. By curving the mirror something happens. The fact we are suddenly moving the object governed by visual experience is broadening our physical appearance with the object. I am quite interested in this. If we are attracted to the object I like the idea we should be rewarded by exploration of the object, areas and surface, known to the wearer not the viewer and all kinds of other things. I sometimes group things as if they might be part of the family, something to read in the relationship between pieces, partly the under surfaces could be eggs – quails eggs- also slices of kiwi, cucumber.

CR Are your references to natural forms deliberate or a consequence?

AP Not sure which came first. I grew up next to a river and this is fundamentally important. We were always in it in summer and that is a fundamental influence.

A lot of that underwater thinking. Some may come from actual things that are known and combining things, sweets, seafood, fruit. I really enjoy cooking. There is something about that zest, quality of the colour as it is just revealed, exposed to the air. You can smell it. Colour enriches us tremendously. Our hands are making a decision on which fruit we pick up automatically when we think we need it, this is colour information, the next is feel in the exploration of something.

The underwater thing, the acrylic I use is actually a high end plastic, quite hard, it can take a good polish so the material wants it to happen to get light working within the piece but also for that wet look – glistening. That's what I see. There can be connections across several strata of ideas when things connect and gel in a 3-d matrix. I don't see it as a linear inspiration from one, both happened in tandem.

There is something linking to plastic within this, the longevity of plastic. It's not a deliberate stance that you will think differently about this material but it is considered high end, mass production technology and untouched by human hand. But is it laboriously hand crafted, there is nothing that leaves the studio with the mark of the machine always the mark of the hand. There is a willingness to explore that opposite in the material. With plastic jewellery the Christmas cracker is the first thing that comes into peoples minds, the most lowly piece. With plastic we expect a short life span we don't expect it to challenge us and make us think. To have connection to different kinds of ideas as if it's edible, has a smell, alive, was alive, they are all ways of extending that longevity. This is challenging this short life span – non thinking mass produced plastic we are familiar with.

CR Do you want to your work to have longevity?

AP Yes I do. I don't outwardly want the reverse.

CR As you get older you may look back on your early work.

AP I suppose I think on a philosophical level, if you have a material that can offer so much in terms of colour there is going to be a price to pay. Whether that price is being paid in the threat to health I'm not sure. I'm not sure if there

shouldn't be degradation in some way shape or form. If we look at any material with high colour it loses that over time.

CR If you had a faded piece would it still reflect your aims, is it a natural progression or a problem?

AP I think in two time frames. There may be a point where museums start to call me in 10-15 years (laughs). In other ways that the watershed of things starting to happen. Do you continue, alter the work, the conservation element is about the potential for that thing to have an influence. I have to say I don't know. I have spent more time thinking about longevity and accurate recording in terms of images than I have of the work itself. I am suddenly realising is actually quite a curious approach.

CR Is the jewellery the residue of images?

AP An awful lot of the money I make, if there is any, from the sale of work is spent on images. I invest very heavily. I have a very good relationship with a guy I enjoy working with.

CR Are you documenting the end point or creating the image of your work?

AP Somewhere I feel we have almost arrived is where images need to be considered as part of the work, not just the end point. I speak to students about this a lot. It has to happen to record more elements of the work. I am becoming less and less interested in the end point being the only way of reading. The reason I initially approached Graham is because he is a food photographer and I've seen a lot of his work in leading chefs' books. He does all kinds of other things but he is amazing with lighting and good with models. A couple of times I left the work with him without instruction but a lot of the time I am there and what I find interesting – I don't have the equipment- I enjoy the fact I'm not behind the camera. In the directing role of the shoot I can see it instantly and I can communicate how I want the image to feel. There is a technical challenge that goes on as well.

CR You are using images to explore what goes on in a piece?

AP Yes, as much as is possible within a 2-d rendition. I have thought how I would like to move more 3-d with images and where the image is the outcome and different ways of playing with that.

CR You often choose to display your work on the body but many do not. Perhaps you could explain this?

AP I am eternally frustrated by that point. As a field or discipline initially, the Europeans, Dutch, Swiss, Germans publish far better images than we do. Britain could do with moving away from the standardisation of images. The thinking for the maker is that I am bad at images that's a given and I can't afford to pay for it, to do it myself I need a system which I can understand and take one piece and photograph it. It becomes merely a recording exercise and does not challenge the way the piece might feel or what you choose to offer about it or any kind of placing or non-placing of context or age, type of person, all these lovely things to do with the body. To do with the sensuality of the object any thing to encourage interaction, let alone be publication or magazine worthy. For me the body is very much part of that. Something I do find rather curious if that if I do look at myself the way that I use images within the British kind of sphere of things, I am known for being governed by the wearable object and the object. Yet I am one of the few jewellers who will typically show the object being worn. I do think that we could do so much more that would challenge probe or develop this relationship with the object.

To wear something is quite a meaty issue, to parade something. To alter yourself in that way and I think.

CR Your work sits in unconventional places on the body.

AP The first thing is that I want them to be three-dimensional. It doesn't have a flat surface that sits on the body. The placings are essentially military. We have this eye contact with someone, you almost have a hierarchy of ears, shoulders, brooch. Rings can be animated. I wasn't too interested in referring to these military positions. I remember having a conversation with a tutor, Julie Westbury, and I was struggling a little bit to find the forms for these experiments I had been doing. She said to me, what should it be? Consider about this piece it just has a lovely translucency to it, how do you employ that to

enhance it? So you just start moving about the body and that is linked to image, linked to translucency. The three dimensional aspect to the brooches means it doesn't want to sit here. I love the fact we have a flat area just behind the shoulders. Where they are brooches they need to be fully functioning as brooches, that's a given but when they are being worn I don't want any puckering giving away any idea of how it is actually attached.

CR You have hidden devices for your work.

AP Yes. The piece might be hovering, that's important, that poise. The animal creature is caught in motion, they should be in their prime, active, poise of things. The mirror on the back, any light that catches that you get this curious thing. Where you expect a shadow there is a brightness. Little things like that add to the life.

CR Talking about its animation. Do they lose something in a collection where they are not touched or worn?

AP It does, undoubtedly. There are huge benefits from being collected by a public collection tremendous and I've considered which I want collected and I do like to be consulted, as it is a permanent record. It can be quite important being asked to think about something in a certain way while it can force you to think about your development. You need to select something that is a marker. Sometimes you disagree with the interpretation of the curator. None of that is as good as seeing someone wearing the work, this will outstrip any collection simply because it is not worn. I fully understand and support collections, public can do more than private ones in terms of education. But someone can glow with something by wearing it. It doesn't matter what it is, can be 9ct gold. A new pair of shoes.

CR Does the jewellery enhance the person or the other way round? Is there a connection here?

AP Yes undoubtedly. But I think it can change. There is an empowering element of jewellery, it might move you bolster or remind you of something. It's difficult to get that with an object we are unsure about. I can see it happening both ways. I get first year students to think about their work so that there is an

inclusive element to the body. So you adjust your body to wearing it. But most museums don't have the space to present things like that, in that way. I fundamentally agree that jewellery has to be worn but there is also place to understand it through previous knowledge so that we can see it. Close your eyes and put it on through the glass case.

CR What about people who are not familiar with contemporary jewellery? Images can add that extra information.

AP I have spoken to James (Beighton) about the mima collection about photography and I think it would boost the collection tremendously to invest in that kind of way. There are all sorts of issues with things like that because you could argue the display is dated by the design. It could go wrong, it might not be the questioning you want. It will take time to realise but we should be recording this. Even artist images could do this, you could explore the object through images over time.

CR Do you like to track your work over time? Or does your responsibility or interest stop when it has left the studio. Should you be consulted over display, context, after deterioration?

AP I think the maker should be consulted on all those counts. Equally the maker needs to be approached about it. Sometimes the whole making is strongest when it's influenced by very little else. All this stuff you realise in hindsight, you are unsure about what you are thinking and that's an intense time and you need to concentrate. But I would like to be involved in later things but have the space to carry on to make.

CR Not burdened with your past.

AP Ideas move on. I find if I get work back from a gallery that has been out for quite a while to handle it again can be a curious experience. You might have a years work between now and then, there might be a considerable period. Then you realise what you were thinking about and you make the links. It helps your mind focus on this.

CR In time how would you react to degradation.

AP I would be more typically governed by replacing.

CR When you are not around, what happens then?

AP Part of me thinks if I am not around then I do not need to think about this (laughs). But I realise there is a flippancy that I don't mean. Part of me feels this projected thinking about collections, collections need to maintain a focus of collecting of that time and there needs to be a tremendous understanding of that not to be dominated by worries at what is collected. We may look back and realise we have been slow collecting this whole impermanent thing. There could be a whole movement of that. What part of the remit has a time frame on it? I don't feel that should be the case. Makers are making things of the time in which they are living and collections need to be brave enough to fund the recording of that. Obviously if the work was degrading very quickly that would be difficult to defend in terms of funding and strategies but if that is a leading approach of the time it should be recorded. You need to look at that objects longer life recording through film photography, 3-d scanning. All kinds of different ways. That is something else interesting for collections that whole idea of 3-d scanning I've been interested to hear about research looking at the potential in museums. Handle objects we couldn't handle before, only 50 people in the world have before.

CR Plastics are versatile?

AP Incredibly, unending. In such a low-tech way. The pieces were formed in that oven, third hand catering oven that cost me £20. Students joke at it. I wear this lab coat as if I work in a clean white space. I like plastics that low-tech nature of them, very low forms of heat, simple moulds, very adaptable. I don't do things in big runs, I enjoy forming things as I go. My parents were silversmiths and jewellers in Birmingham and they closed the studio when I was five or six but I have early memories of that. I was always in the studio. That was quite influential when I arrived at Middlesex was that I had a lot of skills previously that allowed me to project into materials.

CR Gave you the confidence for other materials.

AP I think so yes. I am a very strong advocate of metals and silversmithing. You teach someone through metals with a broad approach, they can work in anything.

CR Like drawing, the spring board to other things in art.

AP I find the drawing element comes in three dimensions. I have been looking into research that suggests reasons for this. Something I find myself with a lot of the students I work with, you can be speaking them about their idea and they have this image they can see which is three-dimensional. But if you ask them to record that two-dimensionally they struggle. I am the same. There is a lot of drawing to tease things out, proportions.

CR Are you a sculptor working in miniature?

AP A bit of both. There is fundamentally a difference between the two. It is over easy to describe things as sculpture to wear. It's easy to nugget the works. There is a difference between sculpture and jewellery in its relation to the body. I don't necessarily feel I am working as close to that boundary as people seem to think I am. They disagree with where on the line I am placed. I would like to do larger scale work. You can look at that object and the mental projection the physical interaction we imagine handling it, picking it up. Sculpture is an object that is not solely governed by the hand that is where the cusp happens for me. It can be behind glass, just in your mind's eye with that object you would be handling it. There is a lot of sculpture that can invite that but equally looking at Anish Kapoor all these void pieces we are using our hands to stop ourselves from falling in, not using our hands to caress and touch to sample these things. It's a mental difference. It can be our hands or the rest of our body. Something that happens there, I get to that position with it. It's something we should be slightly cautious of when using that terminology it's too broad. We come from craft.

CR Do you?

AP I am a maker who thinks.

CR You said earlier nothing leaves the studio with the mark of the machine, a personal input into your creativity.

AP I very rarely use assistants, it really is my hands. There can be periods where I can only make pieces for so long before I have to physically put it down because there is too much wet work. I need to do something else so my hands can recover. All the individual spines on those they are hand laminated, heat formed, carved, polished on the motor. It's all done by my hands and there will be some larger scale bits where there might be some drawing to alter the making, the engagement. It's all me and that's important. It seems to support, not in a designed way, but expensive pieces in low cost materials. Adds a degree of gravitas to that, an individual imprint.

CR Transforming your material?

AP It's still plastic, I still call it plastic so I am not actually transforming it. Ideologically I may be encouraging people to consider it in other ways, glass.

CR Are plastics more accepted today in jewellery?

AP I do. Earlier I would have applied the notion of achieving preciousness to the material. Possibly as I have matured that has diminished that thinking. It's the material. I have regressed from this thing. I've rebranded it, reconsidered it as desire. That notion of preciousness, we've had that. Recycling, that's one I always get asked. People throw material away I pick it up so it's important but it's not a political statement. Recycling was a watchword for a time, so now the second wave of this in the current students. Preciousness was another one that led the field for a while and I think it's incredibly interesting notion in jewellery but it just doesn't happen to be the one I am focussing on for the work I have been doing. I am making an object that people want to touch.

CR Ever had negative reactions to your work?

AP In the sense that when you see people handle an object when you pass it to them they are almost repulsed. I have noticed a change in someone's face when you use the word plastic or when they handle it because that's when they realise it's not glass. You get these points. I've seen someone pick up a piece and go to smell it.

CR Does that make you feel as though you have been successful in your aims?

AP Absolutely, which links back to the transformation point earlier.

CR I think you are creating a lot of ambiguity in your pieces.

AP Mischief can be amusing sometimes. I wouldn't change core things though. There might be occasions, a gallery at Christmas might suggest that if things were changed you could effectively sell more work. When you hear things like that you are not interested but you start to think I am pursuing two lines here. My own line, larger pieces, then there is another kind of thing of people actually wearing the work. At times these come really close together and other times they go off on a little trajectory. These rings here that's really exciting. I am not thinking about them in terms of money. I can make them in an hour and a half beautifully and that would be in terms of the gallery who approached me might achieve what they asked. But still there is no mark of the machine it is fully about the hand, it's got a sweet like thing to it but it is not over invested in that reference. There is a very subtle colour change in it and it's got all these things. Sometimes I need to make a piece like this to get that momentum going, a result, that thing that can happen. I will disperse these hundred hour pieces with these other things. Sometimes I just feel that working on these hundred hour pieces, two days go by and it's difficult to see what you have achieved in those days. You only need a frustrating thing to happen and you need this momentum that comes from making other things. That ring is also more readily wearable and enjoyable by someone.

CR A straightforward relationship.

AP I really enjoy speaking to clients about the work. These other pieces I just enjoy people turning up wearing one.

CR Should your work remain looking perfect or can marks from wear develop?

AP The imperfection is something I did struggle with. I couldn't find a way to think about it that didn't indicate a loss of control. Equally I suppose in the development of someone working with a material they are initially exploring but then you get let down. One of them was about flaws in the material. One of the

driving things in the beginning was that what I wanted to do couldn't be done. That really drove that on but then it would be overly stubborn to push the material to its extreme and you want it to be perfect as well. You are just setting yourself up for a really frustrating time. Still for major pieces I form three and choose the best one. Then there are two kicking around the studio which can be cut and resliced and it influences in a positive way. I started to see these tiny flaws in things, the laminate might be slightly prised, flaws within the creature and there seems to be coldness a man-madness to the perfect examples.

Patina, I've not experienced enough patina to have a distinct comment on that. The materials I am working with are not old enough to develop that. I'm very interesting in finding out how they perform over time. I am also interested in how an object can be presented, invite a cautious caring approach. Even handing a piece to someone, you are giving an impression of its weight, its value. Ever so rarely you get someone who snatches it out of your hand and I think you are not the person for this. There is a patina that can develop from the oils in the hand, just from being out in the world that it think it will be lovely to see how time actually alters these objects. I also think that there is something a museum does taking something out of the world and storing in a controlled atmosphere, not only does it protect it from touch but also abuse, damage accident. For a piece to be scratched that is not patina that's come into contact with something that is too abrasive for it. If someone has attacked something with a chemical cleaner, it's ill considered.

CR Is there a difference between patina and damage?

AP I think there is. Patina is something that comes about from the handling of an object, you can have a patina on antique furniture which is generally about a loving use. It's been used and it's got an absorbent surface. But we don't want too much dirt involved, we don't want that third agent. We want patina to come from the hands. Plastic doesn't yet have that and nor does it have an absorbent surface. Thinking about it in terms of colour degradation, we have our science head on about that. I think that's because it's a designed material, it's designed to provide solutions, to replace more costly labour intensive classes of materials. Plastic mimics. But I am using it for itself, with a reference to glass. I would be interested to see if I could make one of these in glass.

CR It would be interesting to see differences.

AP There are lots of lovely things that could happen with that. Glass, that's another one. Where is glass in terms of patina? Another thing I like about plastic, when you pick up a piece of glass it is cold, when you pick up a piece of plastic it will alter itself to the body temperature far more quickly. It seems far more bodily.

Peter Chang (PC)

19th March 2004

Interviewed by Cordelia Rogerson (CR) at his Glasgow home/ studio

PC I did a graphic design course and realised I made a mistake so I specialised in print making, etching. I was grinding up limestones it was hard physical work and the etchings. I used to grind through the etching plates it was very three-dimensional. I was mainly in the sculpture department. I got a scholarship and I did two terms in Liverpool and one term in Paris, which was an etching studio. I was there for about 4 months, I came back and was employed in Liverpool for a year and then went to the Slade. I did a year and a bit in etching with Anthony Gross then started to expand and Reg Butler, he was a professor in the sculpture school. In all I did three years at the Slade and in sculpture. I went to art school from the age of 13 to 17.

CR What made you start using plastics?

PC There was no specific reason. I liked certain qualities. I started using plastics over forty years ago in Liverpool, in sculpture. These are a good thirty years old. That's an experiment, I have lost a lot. This is a piece of resin I found in a skip and I carved it. I don't know what sort of plastic it is.

CR It could be polyester.

PC It could be, it is brittle, like polyester. I liked the colour in acrylic sheet, there was lots of it around, pre diploma course. I believe it's called foundation. I also used a lot of flexible PVC the stuff they make raincoats out of. It's only in the last 10-15 years that I started to use polyester.

CR Why did you start using that?

PC Acrylic suppliers. Originally when I started making jewellery I was recycling plastics. I would go round sign writers, 25 years ago. I would just get the off cuts. I found the manufacturers, ICI, they have a non-standard range but you have to buy 20 sheets. You are looking at thousands of pounds and when you are just making a brooch it's not economic.

CR Was your recycling prompted by just economics?

PC Not only but also. I also used the configurations of plastic extruded sections to give me a pattern.

CR What specific qualities were you looking for in plastics?

PC Malleability and colour. Because I was limited on the colour I started to use polyester. So I could control, to a degree, my own colour.

CR Do you find plastic a very versatile material?

PC I find it so.

CR When you started to use plastics did you feel you were being quite unique in your approach?

PC I think people had produced jewellery in plastic by then. Susanna Heron, Nuala Jamison, but I am not trained in jewellery, I am not very fast. My things consequently were very expensive and I found the price range of jewellery difficult. There was not much around when I started but there had been. Lots of it around. I was using a manufactured material but in a one off way. Nuala, she was CNN wasn't she? They used to mass-produce things. They used to work for Jean Muir.

I went into a competition once and made a limited edition brooch but I found it boring.

CR You would rather use plastics in a more unique way?

PC I suppose unique way. I just do it my way. We are all unique, anyone just goes their own way. When you are a student you are eclectic and absorb all these influences but when you start to find yourself, if you don't go your own way it's a waste of time as far as I am concerned.

CR How did people react to your work in the early days when perhaps it was unfamiliar?

PC I think have a lot of negative reaction. Certain people in the jewellery world don't really rate me. Which is fair enough because I am not a real jeweller. The cliché I always use is that when I make jewellery I am a jeweller, when I make sculpture I am a sculptor. Some jewellery I design some you could call craftsmanship and some I am it at the creative element. It could be art. So many people use that term these days it's difficult to use that word. It's a spontaneous creative process. Some things I design start on a piece of paper.

CR What are the influences and stimuli for the designs?

PC People have pigeonholed me, regarding other artists, it's not true. Gaudi, Munch, people I have no interest in. When I was younger I used to like people like Max Ernst, Hans Arp, Duchamp, Dada and Surrealist groups. Also some of the American 1960s people, Jasper Johns, Rauschenburg. But regarding influences on my particular work most people think it's only to do with sea creatures. Even the publisher against my wishes published images in a sea context with hammerhead sharks, have you seen those? There is an anemone!

CR They did that without your permission?

PC I saw the roughs and I said not to do that.

CR How do you react to people interpreting your work?

PC I welcome it. Barbara's got a brooch and she wore it on the London underground when she was teaching at the Royal College of Art and this little old woman came up and said 'is that snoopy' and the name stuck ever since. I don't mean to put humour into the work sometimes it just creeps in. This is fine, the more interpretations the better.

When I make a sculpture I don't title things as it pins it down, although I have been titling some jewellery, I give it names to identify it. On this postcard, the first exhibition it was in was in Rotterdam so I called it the Rotterdam bracelet. It did not mean anything.

CR It puts it in a certain time and place.

PC For me, it doesn't mean any thing if you don't know the story.

CR You see it as a very personal thing?

PC yes. There is a lot going on in my works that I do not tell anyone. This one, it's about disease because it looks like flesh and that is referencing a skull.

CR Why don't you tell other people about this?

PC I don't think they would want to know, it's not very nice. It's my thoughts and I can't think anyone would need to know. Sometimes I give them titles or idea sources or who owns them. But to the general public I don't find that important. I feel the open interpretation is great.

CR Are you happy that a work owned by a museum is open to interpretation on display?

PC Yes, I prefer that, like in Montreal Museum they were producing a catalogue and they wanted me to write something intellectual but I made some gumpf up and it was all related but it wasn't necessarily why I made the piece. I think the piece should speak for itself. I am not a good speaker, I don't teach I have only taught about three days in my life and I did not enjoy that. I don't give lectures or anything. I just lived off my wife's earnings most of my life.

CR Can we talk about how you make your work. It has got a polyurethane core.

PC Yes it is that stuff they make surf boards out of.

CR A moulded base?

PC You buy it in a sheet and you just saw it up and shape it by hand with sandpaper usually then cover it with glass fibre, that is glass matting and polyester resin. Then I use the acrylics and other polyesters as a veneer if you like.

CR Your first work was more of a mosaic style.

PC That was before I used polyester. I used PVC recycled materials too. I cut small pieces and put them together in a design. I tried one or two experiments with casting but it didn't really work for me. I don't really cast. These small bits are glued on.

CR Your later work has a much more fluid surface.

PC That's a combination of the polyester and the acrylics. I use clear polyester pigmented and the thickness of the layer denotes the colour tone and I set objects in.

CR I see, so the polyester is viscous and then you place pieces into that.

PC I made that bit separately and I made that up with a plasticine wall, made these white tentacles, made it to the curvature where I wanted it to go and then I anchored that in position where the resin would go. When I poured it in it would go all round and then I shaped it, fettled it and polished it afterwards. I fix it all together then pour on the resin. I polished the fin separately first, clean all the polish off, cemented it to the main body and then using the blue, in this particular case, to go onto the main body as well. There was a fillet, so it is more homogeneous.

CR Your colours flow into each other

PC on this particular one I drilled, a bit like photographure where the colour is denoted by the depth of cell, so the deeper the hole the deeper the translucent colour is. The shallower the hole the paler the colour is.

CR It is an incredibly labour intensive making process.

PC Oh yeah. On these I made rods out of gluing very thin sheets together and then turning them on the lathe and shaping and polishing them and then chopping them off like salami. So there is a lot of work.

I had to make a jig out of wood to do these. I use a drape form to make the shape in transparent PVC or acrylic, I don't know which, and then on the bottom

I coated it with a transparent coat of adhesive. Then dropped glitter dust in to get that effect.

CR Your use of colour, I sense, you are using colour to highlight different components.

PC I like the contrast of not only colour but also imagery within that design. I am not consistent because when I work on a particular object too long or series of objects I try something different. I always try and maintain an experimental aspect, it doesn't always work out like that. A lot of the work I do is very conscious but it is treading into the unknown. This is where I differ from a designer because to me drawing is a point of departure and I don't do many commissions. I don't like doing them in one sense because the client will flick through my work and say I like A, B and C can you do something with that feel? Well I personally can go back in time. I think Adam (Paxon) was very surprised at my last show in Edinburgh, which he attended, as I went back to mosaics, which I had not used in years. But that was the effect I wanted, I can do that but when other people say I like something ten years old I find it much more difficult to go back because someone else has stipulated it. Somethings are designed and others evolved.

I tried something out on that related to earlier pieces but also an aspect I had never tried before and I like to put maybe three different images together in the joins and see what happens.

CR Do you do work you don't like and reject?

PC Sometimes, well when I say don't like, it doesn't work. I have a sense of what is right and what is not.

CR Your colour combinations ought to clash but they don't they seem to sit harmoniously together.

PC I don't think there is any particular way I use colour, much of it is intuitive. I do like using complementaries and this is where the nature bit comes. I could quote things such as I like nature's camouflage and warning colours to attract

but I have had these quoted back to me by so many people I no longer say that. But colour is a major ingredient in my work.

CR Do you think there is a hierarchy of materials in jewellery making?

PC Not for me. I have my own personal hierarchy and the top is colour and the top plastic is acrylic. Mind you polyester gives its own qualities but I would like to increase my palette of acrylic sheet. I sometimes use gold and silver, and glitter dust. I like the old sixties drum kits but some of the imagery used, I use contemporary everyday things the pattern of this is based on the tessellated dragon flies wings, but this is my son's trainers. With computers so many contemporary designs are so organic there is no sharp edges. Have you seen Frank Gehry's Bilbao museum, it is not finished too well, but that is not his fault, but the organic lines are good. The airport as you go into Bilbao, again it's not very well made but that is of interest as it is of organic imagery too. I am not exclusive to nature, natural and manmade objects, what else is there?

CR Is wearability an important concept for your work?

PC The main consideration I have is weight. People sometimes reject them because people don't think they are easy to wear, but my wife always wears them and she finds it easy. They can catch on things, I did consider this for a while but if I make too many compromises well. If I am going to spend all these years making something I might as well try and enjoy aspects of it.

CR Have you ever made necklaces?

PC I made a torque, which was made for a nude calendar called Jamaica. It's spring loaded there, the photographer has a brief to put it together with the matching brooch, earrings and bracelet. All the garments, the few there were, were in yellow and red. The work was super glued together and I dismantled them when I got them back.

CR Are you seeking to transform plastic by working it?

PC I think I am in a way. A lot of sixties sculptors, I think they dyed some of their work. It was uniform, it was like a manufactured object. I try to give more

interest, this is a flat sheet of acrylic and I drilled and painted it from underneath to give this subtle effect. These are just technical. I did a radio show when I won the Jerwood prize with Charlotte and it was very funny. They were saying what background do you come from and Charlotte was saying my grandfather was an architect and my father and brothers are architects and it came to me and my dad was a seaman full stop. I can't trace any further than that. But talking about the jewellery I was talking about ideas and the last winner her statement was all about technique. Jackie Mina is a very good craftsperson and she knows her thing.

CR You are producing a hand crafted finish.

PC Some people think it is very machine made, highly polished. It could have been made by machine. People sometimes suggest things and I smile and nod my head, it's not important enough to have a fight over.

CR Is your work meant to last?

PC That is a difficult question. A lot of museums have my work and I have not really been approached on the longevity. On occasion, I had this exhibition that went round five museums in Germany and because most of the pieces belong to people, individual lenders, I specified especially with some of the reds and yellows, these are notoriously fugitive, so I have read, to do with colour and pigments. Originally I got offcuts from shop signs and these did not seem to fade. So on this show I specified not to use direct sunlight and also if they had any strong spots then direct them off centre. these exhibition went on for three months that is a long time.

CR From your perspective would you like your work to last?

PC I would yes.

CR Beyond your lifetime?

PC Yes but some of the objects, I don't know what the plastics are in the early recycled objects. I used sections of felt tip pens and disposable razor handles, lego bricks. Sections of coat hangers as a tessellated patterned surface and in

conjunction with polyester and to be honest I just don't know the composition. Some of them don't polish so well and some of them are softer than polyester or acrylic and when I am polishing you realise this.

CR If you saw degradation on one of your pieces would this be a problem aesthetically?

PC A piece I had sold?

CR Yes, or in a collection

PC If it made a lot of difference I would be concerned yes. Some change can bring surprises and positive surprises but some changes don't. The ones I would be concerned about would be those that didn't give the effect I wanted and did not look as good.

CR So if it had yellowed slightly or lost colour you would prefer it not to have done.

PC In certain circumstances yes. If the yellow faded and still in harmony with the surrounding colour scheme that is fine, it's just pupated in a way. It's gone to a different level.

CR Is that a patina of age?

PC Only if it works, if it is possible I will do something about it, often it is not always possible. It doesn't happen often.

CR I think I saw one of your mosaic pieces in the National Museum of Scotland and the adhesive has started to appear a little yellow around the pieces.

PC Which one was that. A bracelet? Oh, I have not heard anything. At times I get pressed for so many exhibitions I repeat things. Where would the adhesive be?

CR Between the mosaic sections.

PC It was a pretty early one. I think if they go a bit light I don't mind that.

Susan Pietzsch (SP)

26th October 2004

Interviewed by Cordelia Rogerson (CR) at Middlesbrough Insitute of Modern Art, (mima)

CR Can you define jewellery for me?

SP Jewellery is really an adornment for giving an individual character, so people can individualise themselves with an individual piece of jewellery. That is a very important point for me. It makes people think about how we adorn ourselves.

CR Does your jewellery have to sit on the body?

SP Not always. For myself I like two sets. Real wearable jewellery and then I am doing objects which do not have to be wearable, which comes from the body. But they make people think about jewellery. I have collaborated with a friend to do work that is about footprints.

CR But does jewellery always relate to people?

SP Yes definitely.

CR Is that what makes jewellery different from sculpture?

SP Yes, I am sure of this.

CR Which materials do you use mainly?

SP Mainly, porcelain but also sugar, which is not easy because I have to find out how to melt it and form it. Sometimes I use rubber or plastic.

CR What do your materials mean to your work?

SP I think if I use porcelain I use it mainly for exchange. If I make a shape I change materials. So if I reference a sugar shape but I don't use the sugar directly I exchange it for another material. So coffee beans are in porcelain and so on, a transformation of material. Porcelain is also a white gold. I come from

an area where porcelain is mined and porcelain is a very precious material in this way, so we call it the white gold. This guy went out to find gold but he could not but he found porcelain. It's an interesting point.

CR So why did you move onto sugar and plastics and rubber?

SP The rubber is a different project I would say. I used the rubber because I know the material and I really loved it. I tried also to cast rubber but up to now I have not managed this. I wanted to combine sugar and rubber but the lack of casting was a problem.

CR So you used ready made rubber bands? What is it about these that is meaningful in your work?

SP Rubber bands are very usual common things, used for cheap reasons. If I sew them into necklaces they become a very precious thing, and I like this. It becomes precious because it becomes a piece of jewellery and you can wear it.

CR You are transforming your materials and putting something of yourself in them?

SP Yes that's right. That is also one point of using the sugar but there is also the point of trying to show that there is so much sugar around everywhere. People get attracted to it because it is sugar, but we don't need it. People are spending so much on sugary things and I want to point this out. But also if I combine sugar and gold then I make the gold not useless but a shock to see. I can reduce the value of gold in this case but I cannot raise the value of sugar.

CR You are trying to make people question the use of your materials and making a social comment?

SP Yes

CR Do you think there is a hierarchy of materials in jewellery making?

SP In The Netherlands I think that people do not care any more about gold than any other material and I think that people are using everything on the same

level. They use it if they need it and not because they value it. Germany they try to be like this but they are not. The British, I think, are behind Germany.

CR When you use different materials you have to learn new techniques?

SP About the sugar especially and the porcelain. My porcelain technique is not really perfect because I am coming from the jewellery field and I went to a factory that deals with porcelain and they taught me the whole thing. I am still working on that and improving. The quality is important.

CR With the sugar did you take the material and play with it until it worked in a way you wanted?

SP I think it was playing around to find what it did. Sugar and water, boiling and casting in a plastic mould and many different possibilities. Then I really started to focus, depending on what I wanted. Sometimes the sugar looks like plastic or so it looks like real sugar, so there are different possibilities.

CR You are making the material fit the idea and you find it a very versatile material.

SP Yes really it is. I have not done everything, there are more possibilities.

CR Do you treat the surface of the sugar when you have finished?

SP No I do not. Sometimes I cast in two parts then I solder them together, I have a tool, it comes from a dentists workshop and you can stick it together. I worked with a guy who lives in Berlin, he is really professional in a candy factory and he gave me much advice. If there is any water you get bubbles, all sorts of things happen because it is so alive.

CR With your rubber bands was this again a trial and error approach.

SP Not really, as I continue with the rubber bands this is for me like a special project as they are ready made. Now in the future I will again try and cast it and try and get what I want with it.

CR You are using the rubber bands for necklaces?

SP They are sewn together, different sizes. First I lay them and make a sketch and sew them together which is a hard job. Each rubber band has two or three stitches to connect it to another band.

CR It's very labour intensive.

SP But I like that, you don't feel it. It is very light and flexible.

CR Do you create these necklaces for the present time? Will their value increase in the future?

SP What an interesting question. The rubber bands are colourful and come from India and so quite difficult to get. I think the value of the work will be a bit higher in the future not just because of how I treat the rubber bands. I hope because people know who I am. The rubber bands are really like using a ready made a common thing and very beautiful. The main point about using this kind of cheap material giving the rubber bands a new idea or value, a stronger value.

CR Do you want your work to last as many of your materials could be quite short lived?

SP I don't think I want my pieces to last because I know I cannot keep the rubber in a good shape or not a long time. People have to wear it for the next five to six years and then they can't wear the piece any longer.

CR Would you describe it as temporary?

SP Yes, the rubber band necklaces are also made so you can sit them on the wall and so display them like a graphic work. I displayed them against a black background on a wall. So sometimes people just buy it as this and not necessarily wear it. So they can keep it on the wall if they can't wear it.

CR What about your sugar?

SP This lasts a long time a very long time. There was an article in Hamburg about sugar articles lasting about 60 years.

CR So you see this as a more permanent piece of work?

SP I have not thought so much about this. I don't know. I don't think this when I make them, I am thinking about making. If I see pieces that were made twenty years ago, not mine, other peoples, I think it is interesting a nice piece and of that time but I can see it has a different style and it reflects our time. Always jewellery reflects our time and I am not sure I would want to wear this type of piece now.

CR What if a piece were in a collection?

SP Then it is not for wearing. Then it is important to preserve the work. But the rubber bands not.

CR If the rubber bands broke or the sugar changed in some way becoming opaque, does this change the message in the work?

SP No, I think it points out my message in a way. Rubber is a cheap material that is breakable, and whilst I make it into a valuable material, it's just rubber. I think my pieces reflect our time and our time is a very personal thing. Using gold is like an antique thing for me, it is not in time and maybe after 10 years or so the rubber band has got some breaks then that is ok.

CR So the necklace should just degrade?

SP It would have to.

CR If somebody bought your work for a collection and the rubber bands started breaking should they not be shown any longer? Could you remake the piece?

SP I would not remake it for a collection. I have customers who ask me can you remake these pieces please when it is broken and I say ok send it to me but then if the rubber is broken then I say I am sorry this is just rubber. I can't make it again and again.

CR You can't remake that creative moment?

SP No. I have not seen my rubber bands many years later and I will check how it looks. I think I would use photographs.

CR Do photographs reflect your pieces well?

SP It reflects my idea, which is important I think. I take my own photographs with a colleague. I always try to show how a piece is to be worn on the body, because I think that is very important. If you see a piece of jewellery you cannot envisage how it is worn and how it looks on a body.

CR On exhibition would you wish to show a photograph next to the work?

SP I think that is better to have the piece because you can see the size. The size looks all the same in the photographs.

CR Would a photograph form a good record of your work if it degraded?

SP I think yes, not 100%. There is something missing.

CR How would you like your work to be shown ideally in an exhibition?

SP That is a question that all jewellers have again and again. Mainly there is no other way. I have shown pieces on clothes to show how it looks on the body so always we are trying to find ways to display, are we making videos, photos so I think it is good if you can somehow get them to be alive, as they are on the body. In collection in museums they are always in a showcase, that is a pity, they will never be worn. So I think jewellery makers are happy with this but they also say oh no it in a collection so nobody can see it.

CR So you prefer your pieces to be worn?

SP Yes definitely.

CR Do your sugar pieces get sticky when worn?

SP Not really they are worn on the clothes. But they are not an everyday piece.

CR You have not come across any instances where your sugar pieces have started to deteriorate?

SP No, once I used Smarties, ready made and they broke or the colour disappeared but actually I didn't mind it actually became quite interesting for the piece so it looks alive.

CR So the piece, with its changes, is living?

SP Yes, that is right.

CR Have not some of your sugar pieces changed from clear to white?

SP The sugar has crystallised back and become white again.

CR Does that matter?

SP It's not a problem but it changes the work, first the gold inside is seen and that provides a discourse, the stalk and stone and then after a time it is just left with a golden shine and you cannot see it clearly, but that is just the sugar.

CR You are happy to see that happen?

SP Yes, that is interesting.

CR Do you think a curator would understand your views if one of these pieces in their possession changed in this way? Would you advise them what happens to the sugar?

SP Yes this has already happened, at the Stedelijk Museum, they asked me what happens to the sugar and I said after a time it will become white, it does take time but it will change. I don't know what they thought about it but then they invited me anyway. Maybe they want to see the process going on as well.

CR They were quite happy? Was it just a temporary display?

SP Yes, it was temporary but quite long about 3 months so there will be a definite change.

CR In a permanent collection would you just accept the same thing?

SP Yes, I would, but you can make pictures time by time to record it, to document it.

CR Thinking about the materials you use porcelain, sugar, plastics, rubber? The porcelain will last the longest the sugar less and the rubber to. In say 50 years time your work will be represented by the porcelain, how do feel about that.

SP I have never thought about this, I am still alive now, but not forever. Hmm! Porcelain or photographs? What do other jewellers say?

CR Some say does it matter others do wish their work to last? Caroline Broadhead saw some of her older work and she was very happy about this.

SP My main theme is sugar in all kinds of fields. Even the porcelain this is about sugar so I guess this keeps the theme going. Maybe ten years later who knows how I will feel.

CR Do you generally give advice with your pieces when you sell them?

SP A lot of people ask me about the rubber bands and I always say it will not last forever, that is why it is rubber. Sometimes I feel it is like if people buy an important fashion piece for the same price as jewellery nobody asks how long can I wear it. So why do they do this with jewellery?

CR Do you think your jewellery is subject to fashion?

SP It is a kind of fashion. It is a difficult field to talk about fashion and jewellery because I think there are several people who try to combine this with fashion but it cannot because fashion is very quick moving and jewellery is not. But it is worn on the body and it is something in between art and fashion thing. If I wear

jewellery I think does it fit or not but not if it fits each moment. I mean some of the fashion things are like art.

CR coming back to the idea of remaking your work, in 50 years time a sugar piece had degraded. Would you wish the museum to remake that piece to show it as it was originally?

SP I would say ok if you want to do this you can but I don't think that is so good. You cannot remake everything.

CR So you prefer that when it's gone it's gone?

SP Yes, definitely.

CR You are happy that it is seen through photographs only?

SP Yes.

CR Do museums represent jewellery well, do they show jewellery well?

SP They don't show jewellery very often and also if they show jewellery sometimes it can look a little bit odd. In Munich it looks so heavy the way they show it. I like the way they have a circle and you can look around but everything is in a showcase and everything looks so heavy and for me it looks in another life, I don't like it.

CR Would you rather see your work in people?

SP Yes on people or in a more fresh way. There are different possibilities than a heavy showcase. I guess the darkness was for the conservation.

CR This is a deliberately open question, should jewellery last?

SP No, because for me it is a temporary thing. I am thinking of all the awful gold pieces people wear, if you have a really important piece from Africa or so on then I like this piece and I would like to keep this piece. I think it should last, I

also like to see people wear modern, in time, jewellery. Not like gold rings, I hope these don't last so we can go and change them and make them modern.

CR Regenerate and keep moving forwards? Is this a reflection of society constantly moving?

SP Yes. I will need to think again about my work, what you have asked me. There really are not so many people who contemplate jewellery and people can't change their mind on jewellery and I really hope that they will. I heard one jeweller say, I can't remember his name, I wonder why all the fashion shops keep changing and you never see any designs from the 1950s but all the jewellery shops do, and nobody wonders about this, it's really interesting.

CR Why do you dislike gold and metals so much?

SP I don't know, I think maybe I have worked so much with them because I was trained as a silversmith. I like their work but it was very heavy for me, hammering and I was not good at that and I thought many times I would have to change my profession. It is always so dirty and no colour and I like colour and silver gets so dirty, black and I don't like this. If I work with porcelain I cast it and it is very clean work and very different and I can work with colours and white.

CR You trained as a metal smith?

SP Yes I trained as a silversmith but after three years it was too heavy and I trained as a goldsmith instead.

CR Were you taught to use other materials at the same time?

SP Not really but our professor was quite experimental and in a way she encouraged us.

Yuka Oyama (YO)

27th October 2004

Interviewed by Cordelia Rogerson (CR) at Middlesbrough Insitute of Modern Art, (mima)

[Interviewed after a *Schmuck Quickies* performance at Psyche, Middlesbrough, 26th October 2006 and just as she was starting a residency at mima]

CR Can you define jewellery? What does jewellery mean to you?

YO For a long time I thought there were small objects but now I would say it was something that was very inseparable from people. It's very intimate, it's more special that someones clothing. For me I don't put much value into expensive jewellery. It's something that tells about me, reflects how I feel. I do have a set of jewellery to give me some courage. Apart from being an artist I also earn money being an interpreter and when I go into business I put my suit on and I am a completely different person and I have a set of jewellery that is business like. It is like a uniform and I don't wear cheap jewellery either, gold. It's conservative and minimal it defines yourself and your profession. I want that look, I made them all. It's my way of keeping my status because I don't have any but that's the best way of defining yourself.

I love playing around with images and I love playing with representations of people. I like to play.

CR You are deliberately altering your persona.

YO Yes in also my dress, hair, makeup. I trained as a jeweller, I had a very long education in jewellery. I am knowledgeable about jewellery history and therefore I want to really avoid getting caught in it.

CR Why?

YO I don't want narrow myself down.

CR Would that limit your creativity?

YO I am not interested in narrowing it down. That's how I ran away from jewellery, handwork, perfecting your technique it gets too close. Working in the jewellery field you can pretty much do everything by yourself. The scale is small and I find it calming but being alone is not enough for me, just being on my own in a studio. Jewellers are so caught up in their own world they don't know anything that is happening around them. I didn't want to have that kind of lifestyle any more. I want to make work that communicates to more people, not just myself. I do not want to be a craftswoman. I always want to address my ideas to what my position is, who do I want to move? That is very important to me. I have moved very many times in my life so that really my private interest to, and personality. Books I always carry around but it really limits what you can take with you.

CR Why did the idea of the performances develop?

YO In Munich and I doing sculpture class and I hadn't made jewellery for two years, I stopped completely. I didn't like Munich too much it's a really boring city and I really disliked the way people were dressed up, it's so boring. The city is very very boring, revolting. I couldn't take it any more. I had to do something about it. I wanted to be a guerrilla and make it more fun. It was the immediate response to my surroundings.

CR You wanted to supplant this to other people.

YO They were all covered up. Also at the time I really wanted to open up do more different things. I also have arty friends and it was a time I became really ill and I stayed in the hospital for over a month and I met so many different people once more. All women from completely different circumstances in there I found that quite fabulous, a good experience for me. I met with people I would have never met. I wanted to get more in contact with different types of people and I wanted to get out of this student like existence. I wanted to open people. Because I have a very long education it limits my way of seeing things because I see it in the way education has told me. That's where you stand and define yourself but it's also a downfall for your occupation. As soon as I started to work with more people I found I could accept more ideas that I could not in my training. Do I really think that's taboo, for instance?

CR Is it more of a creative challenge to engage with different types of people? Last night you were engaging with different ages.

YO It is. But also my creativity comes from the surroundings. If the structure is clear it is up to people to open up. To allow more freedom to grow. My idea is to collect ideas of people, so many people. It would be easiest to make a stand on a street, but nobody is going to come to me, as you are a stranger in an open street and that is threatening. You can ignore it on the street. You need a defined reason to be there and do have extra time.

CR the idea of making jewellery that lasts for a very short period of time, is that a consequence of the way you work?

YO it is but also there is the thing, does it really have to last forever? I don't think it does but I think your experience will remain forever in your head and that is more important for me. What is also important is a shift, a change in the emotional integrity of the participant. They start normal and I add my piece and they look so happy. It sounds esoteric, it comes from the radiation of the person somehow, they become more radiant. It's not really the jewellery it's the experience. Of course if you buy very precious pieces you would have to feel noble, maybe. But there are also different qualities of jewellery, a special piece from the boyfriend, someone special that has passed away.

For me particularly with the performance it doesn't need to last too long. But also I have been working in this way for quite along time now and I miss the building of it now. I have been organising projects lately and moving from one place to another and organising different kind of projects, not only performance. I have been working with many people and now I am ready to go back to my studio work.

CR It has gone full circle?

YO Yes, it's also part of me that I love to sit down and work and be really in touch with materials again. I cannot say this is the only way that I work.

CR One of your outcomes at Middlesbrough is to make some production ware.

YO Yes, that's right.

CR Will they come out of your performances?

YO Right exactly. The process is going to be very different. The performance like last night was a model maybe. I made models. What I would do is then execute. Some I would leave as it is, like Susan's hairpiece. I think it worked really well. I will make that. But James' two braids, if I leave it like that no one would understand it so I will come up with something more attractive. But the idea is going to be used. I will name it Susan or James.

CR The person for whom it was originally created will remain part of that piece?

YO Exactly. So the point is that the product will have names. It is not a winter or summer collection but a collection of the city.

CR It is rooted in its time and moment.

YO Paris collection would be made in Paris, New York collection in New York.

CR These new pieces will have greater longevity than the performance pieces?

YO Yes, I think so. The pieces were originally their idea, it's a collaboration that's why I want to give their credit. That the naming thing too.

CR Can other people wear this personal jewellery?

YO I think so. I have been thinking about it for a long time. What does it mean if I make multiples of it, so it's no longer special. But then I think in general it's a great piece and I think why not. It's a different approach to it. I draw on people and I work it out, whereas other designers draw on paper. But I think I have a very natural working process, the human models are difficult to use.

Durability is something I need to work on and I use recycled materials so accessibility to those same materials because that is always a problem. I have found some recycling shops here, facilities in Middlesbrough. I was really fascinated by them and it would be great if I could build something like that in

Berlin. Germany has different styles of recycling. If you have a failure of production you could always sell it back, the materials. But here you cannot so that is why there are recycling shops like that. But there has got to be some kind of hole in the system where I could have access to.

CR Is your choice of materials largely guided by what you could get hold of?

YO Yes, it is always collected in each location. That is the very strong concept. It's to do with locality of the environment and human beings of that environment. I do not carry materials around. I collect the materials here. That reflects a lot about the climate, industry, history. If I can make the end product out of recycled materials that would be great. But is that feasible in practice, that's the problem I am facing right now, is it only my arty dream? That I don't know.

CR The dominance of synthetic plastic materials, is that a particular choice of yours or just chance?

YO It is a product of Middlesbrough, known as an area to produce plastic packaging. Plastics often land in my materials, combs. This time it did, here it was industrial with very few household goods, because of the circumstance here. When I did this in Japan in one city the average age is 70 so all the schools were closing down so stuff from elementary schools were in my materials, rulers, PT balls. It was also the city known to have the largest kimono industry from the 1980s but now it is in decline so I had a lot of kimono fabric donated too. In Austria I had brown leather and historic photos.

CR Does someone not from the locality lose something from the experience?

YO I think afterwards if you take the material and wear it somewhere else it the same as creating any other produce. But I will make sure in the packaging it is known where it is from. I want to sit down and work and see what happens with it.

CR Is it an attractive prospect to create a longer legacy of work?

YO I think my galleries will be happier. I really dislike the business side of it but this is the reality. Galleries hesitate to accept me because I am not a commodity that would produce them money and that is why I am working a lot with museums. So they are not so specific. What I have is photographs or images these are the products.

I think right now I have ideas so why don't I work with it. Also in my thoughts there are also practicalities, I don't want to conform but I also think why not be smart now? It's very difficult to make products that sell. I am not necessarily good at it.

CR It's really a natural progression of your ideas.

YO All of it is an experiment too. I want to organise a lot of group work, interactive work now, for next year too. This is not only going to be jewellery, it will be jewellery for rooms. I am writing plans for it now and I am waiting to hear a response from different institutions. The holiday (Christmas) has just become really commercial the whole set of mass production decorations look really horrible and the idea is to get families and neighbours to make decorations together. I am more like operations assistant to operate people. I work with them together to make an installation and see what ideas come out.

It is really working against mass production work. But there are falling into this direction of individualism.

CR How do you document your work?

YO I photograph and also video. The video can record acoustic communication well, and movements.

CR Do you lose something in the photograph, can you see the piece in the same way?

YO With some people you can even better. With some you cannot. One of the factors to eliminate, trying to get away from a museum case is to find the right photographer. I have found the right one and we have been working for a year now. Somehow her talent is to bring the natural out in people. That is really her

talent. The soul of the person is there. I am sure a lot is lost too and video loses a lot too but you cannot get everything.

There will be a book as well, of the Schmuck Quickies and the design work.

CR Can your pieces be understood without the body?

YO I could imagine that but I don't think it is easy to understand it. I think it would be very difficult how those wool balls become jewellery. The trick of working in this type of jewellery is that you have to be very sensitive to the audience. What you are doing is not conventional. I see it as my responsibility to give the entire picture. It my effort to prepare for others to perceive it. I think the oddness could be very interesting in glass case, garbage in a glass case. But there need to be some text, some photographs in order to understand it.

CR If a piece were put in a permanent collection would you like to be consulted as it degrades? For example if there was foam that changed colour, would that detract from your original message?

YO I think it depends on the work. There is some that I would like to have it well conserved and stuff like Schmuck Quickies does not need to be conserved at all. I am against conserving every thing. It is really a statement against using precious materials against having things forever. For that you have the inner experience there.

There are different works that I made using medals and human hair, for women about their struggle in their hairstyles in their teenage years. In that I do not want things eating hair off.

CR Could your work be replicated again?

YO I think it is possible but I would need to give direction. I have my abstract approach to making things. It is of course going to be different but to be honest it almost doesn't matter to me because I already made the form. I have already come up with the idea to if it breaks and somebody want to replace it I would say go ahead. But use the same thickness, proportion so it looks exactly the same. It really doesn't have to be that I make it. I almost don't want to make it,

I don't want to go back and make it. I can see just lately it's just labour because in your head everything is finished. The idea is there.

I guess the Schmuck Quickies will evolve in the making of it but you already know how it will be. Sewing or making it is labour. I wouldn't mind if somebody else does this. If you have an assistant they can take care of it, you can go ahead and do other work.

CR The idea is the really important element.

YO An idea also involves the form and the presentation, which is very important.

CR You enjoy the idea more than the labour?

YO Often yes, but I do miss the labour. I am a really hands person too, I am a maker, It's nice though that I cannot sleep because I am thinking about ideas too much. Ideas are like a waterfall. It's awful but it's also great. You just keep on dreaming about it. In your thoughts it's so clear.

I don't want to be a conceptual artist. I don't like that, I like also the visuals these are very important. With craft I have a difficult relationship, I really don't want to belong there. My work is really kind of in between these things.

CR Can it be ambiguous, does it have to be defined?

YO I think it's a trend to. A lot of people don't come to an event if it is not defined.

CR Are you happy for other people to interpret your work in other ways?

YO Yes. But I think the successful ones understand it in a similar way as I intend them to. Schmuck Quickies is very open work for different interpretations. I have done performances at weddings. It is interesting how I see my surroundings, my reaction to the environment. Other people can give me feedback that is really satisfying.

I think my work is going to change a lot now. It's not done at all. It's really the beginning. I have been very serious about this. I give it everything I can.

Mah Rana (MR)

4th November 2004

Interviewed by Cordelia Rogerson (CR) at the Crafts Council, London

CR How do you select your materials? Do the idea and materials come together as they develop, particularly as you use a large range.

MR The idea often comes first and then I select appropriate materials that expresses the idea clearly and in a direct way. I am always ideas led and very rarely materials led but I am sure I could find an example where this is not the case. I use gold a lot and that's because of its symbolic meaning and history and its appropriateness to jewellery. Just it's a traditional jewellery material and because it brings something to the piece as well.

CR What about your other materials, found objects?

MR The found objects, even the birth stone ones, are in a sense not a traditional material but many centuries ago people would assign objects. The *New Scientist* reported that the first evidence of mankind was a piece of jewellers and they were shells in Africa. The shells were found objects. For the birth stone and zodiac pieces the notion of finding something on your travels is linked to what would have happened centuries ago. Finding something you pick up and respond to because it is beautiful or attracts you in some way and you want to wear it.

CR Yes, this tradition is as much a tradition as gold.

MR A different sort of tradition, walking along the beach finding stones, a stone with a natural holes was seen as something special because it could be easily threaded. Often they would have these stones in place to ward off bad luck in buildings, stables. In the British Museum they have stone pendants that are 17000 years old but they have been drilled, a hole made by a person and I assume they would have used a stick. But these stones meant something to them, where found or a shape. An object with worth.

CR Do you see a hierarchy of materials?

MR In a tradesman's way yes. That comes down to availability, cost. Platinum is more expensive than gold, than silver. Diamonds would be top of the list for traditional jewellery.

CR Are you putting value into pieces by your idea?

MR I guess I am. I remember when I showed the starting group of zodiac pieces to a group and I had a piece of plastic that broken from a car head light but hadn't yet drilled a hole and put a ring on. A person liked the finished pieces but when she saw the untouched plastic she was dismissive of it.

CR In other people's perception you are changing something mundane to something special.

MR I am giving it a different value to what it had before I picked it up.

CR Such as balloons, you made them personal and transformed them.

MR I made these pieces but in my mind the balloons were a material because I wanted to use a coloured rubber, soft latex and balloons were an easy option. I don't deny it was a nice idea they were balloons and had another function beforehand. I was using the original shape of the balloon to form the final piece, cutting a hole in the end and threading it through. The previous form did have an effect on how the pieces looked.

CR You quote that you make highly crafted pieces, is that important to you?

MR Yes, I make a piece of jewellery that should be worn and should be made to a very high standard so that it can be worn without breaking or causing damage to people's clothing. That is my responsibility as the person making the pieces and also often these pieces are encountered without any previous knowledge why they were made so I want them to stand on their own as pieces of jewellery. They can be appreciated for what they are. So I want them to be well made and that's my responsibility as the artist, that professionalism.

CR When you are using a material are you working with the qualities of the material.

MR It's meant to be harmonious, not causing conflict to a piece. I select the material that is appropriate to the final piece and appropriate in the sense I can work with it. For this piece *To knot* I could have used different sorts of cord or string or embroidery thread but the colour would have been wrong, density wrong, scale of knots would be smaller so I am selecting my material then working with what it can give me.

CR How much research do you undertake to understand your materials?

MR Only when I need to for each piece. I don't do experiments.

CR Mock ups?

MR It is all very much planned and I will do test pieces. Dyeing the cord to get the right colour. Nylon would be better and could take colour stronger but it wasn't possible so I used polyester instead. The colour is not as intense as I wanted it, a red cord. I would play around with dyes then experiment with knotting. I bought books on different sorts of knots. In the end I used normal knots, also experimenting to have long lengths and short lengths to see what the visual qualities would be like. What it would feel like in your hand as well and because it is about 100m. I knew I would have to make it in sections. Everything is very planned out and what I do for each piece if I do have to remake them, while I am doing the final piece I write down exactly what I am doing. How long it takes, lengths of cord, amount of dye, time. A recipe, diary. So I go back and follow my instructions to remake it. It makes life a lot easier. I do enjoy that side of it.

CR It is more mechanised than I imagined, I thought it would be quite spontaneous, but the making is not.

MR The lead up to it is spontaneous but once I started I would just carry cord with me. Airport lounge, TV, train, part of my everyday event. Part of the idea of recording time, like getting knitting out, sit there and knot, that is more spontaneous.

CR How important is wearability to you?

MR For me if it's not wearable it's not jewellery. It's about being worn on a person, that connection with another person.

CR *To knot* was a record of your life, can that translate to someone else wearing it?

MR No, it's still a record of my time.

CR If someone else wore it would it still hold the same meaning?

MR I don't know, I've never really thought.

CR But what is important is that it can be worn, because that makes it jewellery?

MR I have a friend who does have one and she just loves it because of how it looks. It looks like lavender, which is fine. She wears it because it's textile, intricate like a scarf, very simple. She has it for different reasons why I made it, so in a sense it goes back to what I was saying. It needs to let others respond to it from their own background, history or points of reference, which is what it is meant to be about. There is a reason why I made these things but I'm not insistent that's how it has to be for the other person who wears, owns or looks at it.

CR A lot of your work is presented through images, books, monographs and in galleries. Are images an adequate way to present your work? Does it lose something, add something?

MR It does lose, you can't touch it, it is just visual. In a way I have always seen photography more of a record of it but a record of the work that has a purpose. All the photographs in this book are one to one scale, that was very important to me. Sometimes jewellery in photographs lose the scale. In my work some things are larger than maybe you expect. Can it add? I don't know.

CR You have chosen not to present your work on the body in the book.

MR All these pictures – I designed the book – all pieces not photographed on people because it would detract from the work. These pieces were made to communicate and other elements such as a figure that brings another layer that people respond to in different ways. I keep it clear so that the work is just read. It annoys me when people photograph jewellery on naked women, it's the worst thing you can do. Everyone just looks straight at the nipples. It's about the ideas I am expressing in the work. I do like the work photographed on other people, it is nice to see it worn and I have the project *Meanings and Attachments* because I am photographing other people's jewellery. It's not my jewellery but about jewellery in general in society.

CR Is jewellery adequately displayed in museums?

MR It can be but it has to be done intelligently. I think it needs space around it. Lots of pieces crammed together and you just can't concentrate on one piece without something catching your eye. I have not seen the collection at the Pinotek Moderne Munich but I know it is a very well displayed exhibition. I have seen lots of pictures of my piece in a nice big case and it is next to a piece by Hans (Stofer) because of similar aspects of construction and that's something. What else should be nearby and how they feed off each other. Also it has to be at the right height and good lighting.

CR Liz Goring (curator NMS) describes jewellery in cases as pathetic objects, do you agree?

MR No, but I am thinking of art jewellery which is strong in itself. Some pieces do need the body, like hanger appeal for clothes. But many are so strong you respond to them because that is their purpose to communicate. That is what art jewellery is about.

CR You are the first person to have this standpoint during my interviews.

MR It's a bit sad then, because that part of the work's strength if it can't be. This applies to other things as well.

CR Of the other jewellers I have spoken to they would rather they were worn. It is not that they do not want their pieces in collections but they feel the interaction with the body is important.

MR Interesting. I would always make my work so it can be worn because it is jewellery but I am always aware, more than not, it is going to be in a case. When I display work – my installation at Fabrica – I had 190 square metres of space and pedestals for my work. I was keen to show jewellery, although small in scale, is strong in what it communicates. I think it worked but you have to think it through with the same kind of rigour and discipline. It's about communication so it needs an arena where it can communicate. I designed the plinths, chose the colour. I knew I had to keep it in the same level of thinking I applied to the work, otherwise it would be unfair to me. It is not often bought, due to its nature and I very rarely show in the UK. For the work in Worthing I am quite keen about how I would have that displayed because it's just part of the way of working as an artist. You don't stop to after you have made the piece, I don't think you should.

CR How do you feel about the longevity of your work, should it last?

MR Some pieces I make would last naturally, the gold. The balloons won't last, that's why I did the thing with the box, the packaging. The brooch comes off. But that part of the message, that it will stain your clothes, but you are still left with the gold disc and have another cycle which would last.

CR Can you tell me more about your thoughts on the balloons?

MR I know that within a month you would have to change it.

CR They are interchangeable with other balloons.

MR Yes, they come in a box with a spare and instructions. But you buy it as one but if you wanted to change it that's ok. These are more about colour and working with inexpensive materials.

CR Is that what you are communicating with them?

MR These work on a different level, wanting to use colour, to make something out of it and working with the balloons and playing with them. More a production range, affordable and you can respond to them easily. It's not precious, it's meant to be fun, enjoyable also unusual.

CR So if a curator or conservator found these degraded in a few years time the balloons could be replaced without compromising the object?

MR Just change them, you have the instructions. When people buy them they are told if you want to change them then you can. If a museum collection wanted to buy a box and bought it from me I would want to explain the whole reason why they should not get anxious after a few months. They can buy packs of balloons. I saw at the ICA Manzoni'' *The Artists Breath*. It is a balloon he had blown into but by now it is shrivelled bits of rubber but still it had a nice quality and you accept it because you can easily imagine it. You appreciate and understand that the balloon would expire and be left with this strange looking thing gone all hard. But then again I don't know what the curators would make of that.

CR Do you think your view should come above that of the curator's?

MR I think it would be too much for a piece they know is going to degrade and you know it's not an unknown factor and they would have to let go with that argument in that respect because there is nothing I can do.

CR You are allowing for the event of deterioration.

MR Yes, I have made allowances and put in place instructions and I have adjusted as much as I can as an artist. If I am selling work to a client who would be told of that position, it's up to them whether they go ahead, not holding anything back. I think if I was working with a new material I would try and find out as much as I could about it just because you don't want things coming back to you two years down the line. As well as being something you don't want to deal with, it's not nice when it comes back, and have to remake that or perhaps it's not possible to be remade.

The piece I am making for Worthing is a gold flat disc, similar to mourning pieces, and instead of powdered pigment I have used oil paint and painted the surface and had a sheet of glass the same size placed on top. The paint is acting as an adhesive for the glass and the gold. I know the oil paint takes a long time to dry and really hadn't the time to see what will happen over a year but I know that if the paint started to move I told the curator I will come along and just undo which I can do. Soak it in hot water and just paint it again. I accept that will happen and if it does I will come and do that. For me I don't want it to sit there and look untidy. Every time I go back to see if it has changed on the surface, so far it's ok but I will get them to keep a check on it. I don't know what will happen to the polyester cord.

CR Thinking again in a fairly philosophical way. You have taken found objects and extended their life already to make them jewellery. Do you want these to last? Should they continue into the future, are they transient or long lasting legacy?

MR A lasting one. For me this piece, zodiac, I wouldn't sell, because there are 12 pieces I found and they are personal to me because they hold memories for me of particular countries and time. So if somebody wanted to repeat this I would do this with the client's own found objects. I would group them and drill the hole and put in the gold ring because that is my skill. The piece is about personal memory. This is personal to me, for another person they would have to have their own objects. It is longevity of memory and the object. Some of these would survive, others not.

CR Are you comfortable with other people putting their interpretation onto your work?

MR Yes because they have to because it is a two-way dialogue. It is not me saying this is how it is, take it or leave it. I am saying what if you collect 12 objects and have them as your own zodiac group. What would it be like to wear pigment that bleeds onto you? So it brings up thoughts that people respond to with their own points of reference and history and that that's my intention and communication. Ok most of the time I don't get to be the recipient of that, I am assuming that happens when people look at the work. I know times when people come up to me if I happen to be around and then talk and suggest what it has

meant to them. That is important to me, getting a response to the work. That doesn't directly feed into my work, I take that on board, I collect stories that people write about their jewellery and I take that on in an holistic way. Most of it is subconscious, general appreciation to be aware of what people's aspirations are, memories.

CR Do museums represent jewellery well?

MR I only really know two, Edinburgh and the V&A. The ones I have seen are old fashioned, pinned on linen back board, almost as artefacts and you respond to them in a particular way because of the lighting. It is a superficial interaction, just scanning, you can't really get too much from it. It wouldn't be how I would display it but then again I have not thought about it. I do pay a lot of attention in an exhibition how things are displayed and framed, pictures, plinths as it is important. How people respond when they walk into a room, colour and sound. When I set up Fabrica it was all about choreography of how people walked through the space. You do want people to engage with it. You have an ideal, you do this until it happens. I am aware of how you feel when you walk in, left or right, what do I look at first, drawn around the space. It's crucial in a display, contextualising the work as well.

CR Do you put artist statements next to your work, or do you leave it for others to interpret?

MR To begin with I never wanted an artist statement and I thought people would look at it and respond to it. But when I first made things like the balloon flowers to other people in the shop I very clearly said let me know what people say and what they ask for. They always asked what is it about, is there something they could read. I thought maybe I am ignoring this and I shouldn't. So on the plinth at Fabrica, it was at the suggestion of the Director about how it could be done, there were sheets that were attached with magnetic clips at one side. The back of the sheet was the same colour as the plinth and when you approached the plinth you didn't see text straight away. But there was something there you could pick up or take off and read if you wanted to. Most people do. I do enjoy reading little bits, sometimes I like reading it first and then look but sometimes I get annoyed with how it's written. You can't have everything but I appreciate that you are opening the work to a larger group and it's not selective. There are

ways to present the work. Artists should be aware of this, your work is about communication, you should think about all the other possibilities. It is an aspect you cannot miss out on.

CR Have you discussed your work with a conservator before?

MR No, I work with curators and that was interesting and I would present 3 stages of me making the work. I sent a proposal and that was accepted and they raised the money and they wanted people to go to the library and have a look around. Then resubmit the proposal once you had seen the place. I would go in to chat and they would suggest things and I assumed I would feel standoffish if somebody was suggesting things and actually it was really nice, thinking and responding to it. It also worked both ways. Maybe I would suggest something so it wasn't one person pushing something on another. It was an open discussion. They wanted to understand what everyone else was doing. It was quite a close relationship. For me that was interesting because I was working in an environment that was not just with jewellers. There were other disciplines, film-makers, installations.

CR Could discussing your work with a conservator inhibit creativity?

MR I might want it to. Nobody has asked me about the paint, I did say it might go a bit strange but I said I would come down and sort it out. It will be on permanent display in the library.

CR Would you remake a piece?

MR I would take it apart and remake it. Most of my pieces are straightforward.

CR Would it both you to remake something you had made already?

MR No, not at all. It is not about a particular time or place. But going back to your collection if somebody did object, it depends on how closely I was working with the curator and what the piece is for. If it was for permanent display and I picked something that would degrade and dissolve in 3 years and I had not realised I would rethink it. I am open to suggestion. I think it does matter if pieces last after you are dead.

Jivan Astfalck (JA)

18th June 2005

Interviewed by Cordelia Rogerson (CR) at her London home/ studio

JA This kind of resin ages (discussing *Tacita Dentata*)

CR Is that polyester resin?

JA Yes

CR And you have witnessed that deteriorating?

JA Yes, and it starts to yellow.

CR And does it become brittle as well?

JA Yes, but I think it's the yellowing I mind most, because when, for instance, I made this piece the deterioration which is happening inside the bead is purposeful and I wanted the outside to remain glass like because this piece is based on Snow White's glass coffin.

CR That is an apple inside isn't it?

JA Yes, I really wanted a crystalline unchanging outside and inside is this breathing living deteriorating thing. Here you can see is that of course the inside is deteriorating organic matter and has a lot of power still and it has actually exploded through it. I have not actually seen it exploding but it has just happened and it's massively fascinating that it did.

CR Can you explain what is inside?

JA Inside is all apple, so basically I took a red apple and I bit it to pieces and made a video about this. The piece is called *Tacita Dentata* and the apple bits have been strung and cast in lots of layers of resin.

CR Just polyester resin?

JA Yes, days spent dipping again and again and again and I have a whole series of slides. The idea was really to exclude air from what's happening to the apple, of course, because there is water and sugar in the apple and would continually change.

CR It probably will never stop changing.

JA That for me is fantastic because snow white has eaten this poisoned apple and she is left in a state that she is not still living but is not of the living. So I was really interested in this part of the narrative because of the paradox and because my whole work is narrative. This kind of *memento mori*, this kind of life and death thing is interesting.

But what I didn't know when I made it, I didn't know the resin would change as well. I did not in the slightest anticipate that in this piece kind of breaks would occur and I'm really surprised by this. I don't think it's the resin itself, well maybe, I don't have the experience but I thought so much was happening inside that somehow it pushed through.

I love the fact now. This is seven years old. The largest areas of beads are empty and so half is just a memory of the apple.

CR Your intention was that the apple would disappear but the empty shell remains. Are you happy that the resin has shattered though?

JA That's what the piece is about so in a sense the narrative is complete. The way materials reacted is conclusive for my way of thinking.

CR Positive deterioration?

JA Completely yes and the other pieces now when I did *Vanitas* and *The Hide* on this basis. This was my first about preservation and decay and with the other pieces I took control over the fact that this is going to happen. So this was more like finding out about how does it look, how does it work, what will it do? And the next pieces are more controlled.

CR it was a learning curve to enable you to refine your work.

JA I am interested in this and I am choosing these kinds of materials that give this ambivalence between preservation and decay because my narrative is about living things. It ties into a vanitas kind of tradition so it is about beauty and the loss of beauty and femininity and its loss and finally about dying. I didn't want to be overly melodramatic.

CR The necklace will continue to degrade, the apple, the resin.

JA I think that's lovely. I document is photographically. Well ok lets say a museum would have bought it, I don't know any museum, which would take care of a piece like that, whether they would communicate to an audience what is actually happening.

CR I think some museums are understanding and accepting conceptual work more extensively.

JA I think this could be quite communicative to an audience. It's not a piece, a gold ring, you put on running for the bus on Monday morning. It has a different kind of story and when on display it has to be contextualised and presented in a way that people understand what's happening. That is the big stumbling block for conceptual work. I will not be here with the piece and nobody can look inside my head.

CR It's story has to be told.

JA Yes, my thinking has to move on now because of this. I had this idea that goes back to the preservation idea, I actually wanted it to stay in a kind of beautiful arrested state and there are things now that are going beyond my aesthetic idea. I don't like looking at corpses and deteriorating human bodies, none of that. Some of this is kind of seems to demand to take note of that and my way of thinking. I need to engage with that too. I think there is beauty in this and especially those beads where you can really look into it as if it were a window.

We now have a new kind of resin. It's epoxy based and it doesn't yellow so I use it for these kind of pieces which I have done (*W-rings*). These are old pieces

which I used polyester resin and they yellowed and I redid the whole series of rings in epoxy based resin. They are fairly dated pieces of work and this stays stable much longer. The epoxy resin is much easier to work with.

CR Why is that?

JA Because it seems to expel bubbles to the surface almost by itself. It's very easy to get a flush almost perfect surface. It is reduced in yellowing and it dries out very fast and it doesn't produce stickiness like the polyester tends to do and it's actually very easy to dye with pigments. So all my students work with epoxy not polyester resin any more. There is one company in the UK called Aquaflo who are really the people who developed it and came to the school and gave presentations. They supply resin to the industry, as much as they can to artists. I think they are based in Germany and they are very nice and generous to our students so we learn from them.

CR Coming back to the idea of longevity, you explored transience in *Tacita Dentata* but your rings you do not want them to change?

JA These I want to stay the same because I work with photographs. That was another problem also. These are printed images, postcards, magazines which are quite stable but I did another series of work which is call *Pixie Land* which is in the narrative jewellery exhibition. I think that it is in Edinburgh right now and these are photocopies and the resin dissolved the ink in the photocopies. To overcome this I had to laminate the images before I cast them in resin.

CR What do you laminate them in?

JA PVC

CR There doesn't appear to be a reaction between the PVC and resin?

JA Not so far. I was afraid it might have bubbles inside it, so far nothing came up.

CR How long should your jewellery last?

JA I don't know, I have not reached that stage yet. I kind of envision immortality.

CR Immortality?

JA (laughs) No when pieces leave the studio when they are sold or they go into a museum they leave my frame of operation as well. The pieces which are in the studio are in a constant re-negotiation process with my way of thinking about them. If it's going to a museum I would like them to stay stable unless like in this piece the changes are what make them, plastic, organic matter and it's metal on top. (*Vanitas*) It was pure white when it came out of the tank and now you can see all kind of changes. I think there are some really lovely areas here. It's copper then silver.

CR The silver is tarnishing?

JA And some comes off and areas are a really beautiful pink. So there is a reaction that is continuous and because this is a *vanitas* piece, it is just very good.

CR Again degradation is positive for the piece.

JA Yes, it's very positive and it's actually what we wanted. It was even more beautiful when it was pure white purely on aesthetics. In terms of the narrative it was in an exhibition called *Dust to Dust* and it was an exhibition about *momento mori* so all the work was contemplating similar issues so it was just perfect in there and did the job. They did not put it behind glass and people could go really very close to get a feel of the material without having a barrier of a smooth surface, which is glass. Especially if you have so much dense information like also on the beads. If you have a glass like appearance and a layer of glass on top it is very difficult to see actually. I would probably need to slides to go with it and close up shots to draw attention to what is actually going on in there (*Tacita Dentata*). Normally I wouldn't allow anyone to actually touch it.

CR Coming back to the rings again, you mention you don't want them to change. If they were deteriorated and damage through yellowing or scratches for

example, at what point would you wish them to be removed from display? Does it detract from your message?

JA I think some of this work is very significant of its time. Three of them I think belong in the 1980s that's when they were made in the late 1980s. They really belong to the 1980s if you look at the fashion, except the lips, which have an afterlife. You can imagine them just sitting there more like an historical piece with a classical sort of appearance, which doesn't date. They date.

CR They are very much rooted in their time and place?

JA Yes, especially the *Wings of Desire*, which was a film that came out in the 1980s placed in Berlin. Certainly part of an era if you like. I also think that for instance the Joan of Arc piece I must have achieved a different mix because it's polyester resin and it has not yellowed in the same way. I would like it to stay like that because this image is a 1940s French actress and it's a photograph of her and I think it should stay like this and be forever like this because it's an icon if you like.

CR You have very different ideas about different pieces of work depending on the concept within. If *Joan of Arc* changed would the message be distorted?

JA Yes, but I would be tremendously proud to have any work displayed in a museum.

CR Have you ever thought about how long you want your work to last, your legacy?

JA Yes I have. The only things I feel work properly in that respect are the things we have from graves like Egyptian, Babylonian, Greek temple jewellery and so I remade these. The only thing that does not date at all is pure gold and so apart from tiny solder joints the rest is pure gold. That is something which will be like this forever, thousands and thousands of years and if they are dug up they will still be like that.

CR When everything else has degraded, they will remain.

JA I think so. Especially latex which is a plant a natural kind of material it is actually organic and it actually deteriorates very fast.

CR This idea that your other work will perish and gold remains, similar to ancient work, do you like the analogy - the fact that only a snapshot remains?

JA Oh yes, of course. Do you know there will be other people? I am amazed that why we take so much care of teaching students so life goes on and they do something else and they teach other people. Some of my ideas have longevity and here and there a piece of work, that's lovely, so that would be great.

CR Jewellers seem to have a very human approach to deterioration, considered and realistic.

JA That is the nature of the work. We make jewellery and that goes onto the human body, we are interested in people.

CR And you are reflecting people and their lives.

JA Yes there are jewellers who have a much more formal approach and are much more about the object itself, I'm not that kind of jeweller. I always see the object in reflection to a living being and the narrative of that being, it might be a fictional being but the complexities and conflicts of existence and experience are still relevant.

I must show you *Hide*, which is where I pushed my boundaries the furthest. I have been commissioned to develop one new work for this exhibition called *Self* and it was about identity and cultural difference. I worked with a film maker, a dancer and choreographer and we painted my torso in latex. First of all it took me two weeks to find out where I could get the latex from and I found out a lot about subcultures in a kinky sort of way, but it was not as a sexual thing. The idea is that when you put a layer of latex on the skin it still simulates the skin but it exaggerates it. There was a moment when all my body was lifted so I had almost the body of a 20 year old. With more and more layers the surface became heavier so I could form the surface of my skin into folds. So I could exaggerate it so I could move from 20 to 120 and we filmed this. Age-wise I am

between these. We used six layers and they were painted and then the idea was that I have to come out of it on my own like a snake.

It ripped only here, I was fairly good. So because the body sweats it creates a separating layer. It's still painful and I was shaved all over. I had to loosen it to get it off.

CR How long were you coated with it?

JA Six hours. Every layer took one hour to cure, really painful. Then I shaved my hair from one half of my head and made this bracelet. There is a lot of thought happening before and I have written about it. I also gave lectures about the idea of changing ones skin. Goya's drawing *The Witches* that kind of started it. Botticelli's painting *Venus* with a very weird dress, it lifts off the body but you can't see through. In *The Witches* it is almost as if their skin is coming off the body as a separate layer.

This is now in the museum. I wanted this to be a moment in time, which is arrested again. This is my body that I will never have again and so forth. We made this video and me coming out in the garden, light and spring like, uplifting. In the museum is the video and the skin is with it on display. And the weird thing now is that the latex is ageing, so when I went to the first exhibition opening it was luminous, just like I wanted it. When I went to the second I got such a shock because it is a reverse. The video is the arrested thing, the T-shirt is ageing.

CR The T-shirt is a living thing.

JA Completely, it's quite gruesome and this is something I have to take on board and think about. The T-shirt was meant to be looking back but is now looking forward to something I will be. So the materiality is an enormous tool for reflection because I have an interaction with this and it pushes me to think and that is a good thing.

CR Can you understand the video without the object?

JA Yes you can, very much actually. Now the museum comes in. I was commissioned to do something to travel to 10 venues. Do we have to make another T-shirt for the integrity of my concept or my idea is a fraud? But if I think it is important to make another for people to appreciate then I have to because the T-shirt will not have an aesthetic quality in keeping with what I want to communicate.

Everyone is photographing it everywhere but in the end we will have a long series of shots how it has changed. That is what is happening right now. It was so exhausting to make, but it was never meant to last. It will hang in the studio like a relic. It was like a therapy, emotionally exhausting.

CR You use a range of materials, when you first became a jeweller did you start as a goldsmith?

JA Yes, a goldsmith. I learnt in silver then when my master thought I was good enough I worked in gold. Other materials came much later. That was when I grew free of my training.

CR Why did that happen?

JA The distinct discipline of goldsmithing I was fairly good at but I lost some of the joy. My very first break away I taught myself fleecing so I started working with wool. I always worked with stones and pearl stringing because that was part of my training but when I taught myself from a book how to make fleece it was such a sensual sensation. When you work with metal it is hard to feel it and touch it. Your eyes get tired but working with wool was an entirely different experience and I think that opened it up. I have great pleasure in exploring other materials.

CR Your use of material is self-taught?

JA Yes mostly, apart from metals. Every so often I look for people who have old skills, complicated braiding techniques. I am looking for somebody who can make something out of hair, as they had in Victorian times because this is something I know I will not have the patience for.

CR Do you teach your students similar attitudes towards materials?

JA Yes, I teach attitude, I don't teach skill. With me they need to do the thinking. We try to create input when they need it, they are on a masters course so they already have some basic skills when they come from a jewellery background. But it also has something to do with the way I teach myself, I get them to figure it out and be clever about it.

The ideas are the most important. In the beginning there is a bit of a culture shock because they are used to a school like system. But they start to find out amazing things, which we pool and share. Those things go into the handbook for the next lot so there is a knowledge base they can access. Ideally every generation of students had different questions and they are pushed toward innovation. So they need to find something new to do.

Plastics come in big time, they are very very important. We will have Perspex, other organic materials. One person was trying to work with rawhide, dog chews. But it gets mould so there is a health and safety issue. That is something where I have to not stop them but make them aware. Now we have found rawhide that has been treated in a different way, lampshades in South America. But then it gets a glaze and it is no longer skin like and she works with the ambivalence. It took along time.

Then also vintage dresses, old photography. A multi-material approach definitely. There is one person who is a silversmith and even she works with different materials.

CR You think this is a general attitude of the modern generation of jewellers?

JA Partly it has something to do with training demands and a different focus and years of practice. Also it is personality based. With Maria Hanson and Chris Knight in Sheffield you would see much more fine metal. With me, I am very comfortable with multi-media and so I guess in the future it is right we distinguish our courses from each other and that people go where they get the right experts.

If my students want to work with a large flat sheet of silver, they would have problems. I have zero interest in machines.

CR Birmingham jewellery school has many connections with industry.

JA Yes, students either choose product or art. They identify what they want to do.

CR Do students have ideas about the longevity of materials?

JA No, last year there was lots about renewable resources. A Thai student, very fashion oriented, very decorative made Perspex pieces and for her if it doesn't have the right look any more it will go (get thrown away). I don't think it's the idea they last forever, they belong to a time.

Plastics are faster moving and also cheaper to work with so that's why you can make an artistic statement in plastics, leave it and move on. If you invest a lot in gold and silver it is different.

It would be interesting to create a show to follow that history of plastic jewellery because I think there is a lot there.

CR Much jewellery was remodelled in the past but plastics tend not to be.

JA I think you are right. Girlfriends want to remodel heirlooms and I refuse to do it as they are so beautiful in their own right. Why should I put it in a modernist setting? Economics plays a part also. Metal jewellery is also an inheritance thing you give to your daughter.

CR Have you ever felt viewers have not understood your jewellery completely?

JA No not really because I am clever about where I am placing it. So I don't do daft things any more, where you will be misread. When I was younger I also needed to create opportunities, I exposed myself to a lot of hurt. In recent years I was much more in control.

I still make mistakes. I have a latex piece in this narrative jewellery show and it was just a latex cast of a leaf. That was displayed with no care whatsoever and it just looked horrible because nobody would know what it was about, just a green piece of latex really.

This is the old leaf. Now I have to be very careful with it. It used to be green when I did the work. This is what I wanted to achieve (wraps it around her arm) and there is still flexibility there, the leaf is still there.

CR How old is this piece?

JA Five years. It is a thick layer and dyed so you don't see the yellowing. This is taken off the leaf so it is only a cast. I was very fascinated by the Daphne stories where a woman was turned into a laurel tree. I wanted to do a whole body suit where you turn yourself into a plant. But I never got there, I only got two arm pieces but they are for wrapping around your body.

One was in the show and it doesn't do a thing. It might as well not be there.

CR It was lacking context?

JA Lacks context, looks ghastly, looks like nothing and it doesn't bounce off the other pieces. It was a mistake to put a piece in that show.

CR Is wearability an important concept?

JA Yes but my idea of wearability does not have to do with comfort any more, more to do with signature of the body. This one (leaf cast) really needs to be on a body and photographed rather than having that awkward background in the glass cases. Very traditional and just crap.

CR How else could it be displayed?

JA Having proper lighting. Slide projection of twigs and then hanging in front of it in black and white so the colour can bounce off. Somehow there needs to be an indication of skin.

I always think like this. If I have a tree structure in the background I can have these leaves hanging in front and I need space in between the Botticelli Venus, which anyone can recognise. So it's an abstract image, tableau, almost like a stage set but through three things you create a dialogue that is more eloquent than a piece on its own.

In the 1960s and 1970s they were absolutely hostile to this type of context. Each piece had to speak for itself. Every other decorative element was frowned upon. Then you had people like Ted Noten, Ruud Peters started creating tableaus and installations then we had a massive culture of installation. They played with the performance quality of the pieces and stage set them and that communicates much better.

That is now why you find theoretical writing, which I produce. It's not a new discipline but it's a hybrid discipline it hovers between jewellery, jewellery design and Fine Art practice. I consider myself a jeweller first and foremost. There are also more opportunities to show this work and there is a new generation of curators and they are more open to these ideas now.

Sarah Lindsay (SL)

15th February 2006

Written correspondence with Cordelia Rogerson (CR) in reply to questions sent by email.

CR What are the influences/ stimuli for developing/ designing your work? E.g. nature, narrative, social context, other jewellers, art, fashion?

SL I am influenced by nature such as feathers and trying to achieve the intricacy and delicacy of them. Also fashion influences my colour choices. At the moment more traditional jewellery using settings for stones interest me.

CR When and why did you first start using plastics within your work?

SL I started using plastic whilst experimenting during my jewellery degree in Glasgow School of Art. I was using horn in the final show and combined it with acrylic, which was easier to control than the natural material.

CR Which plastics do you use? What were the qualities of your chosen materials that prompted their selection?

I use acrylic mainly because I came up with a process where I could laminate it to get an organic edge. Also the colours don't mix together so I can achieve multi-coloured surfaces. I use nylon as a joining material.

CR What do plastics mean or imply in your work? Do you choose the material to fit the design aim or is the material conveying a message in itself?

SL I don't think I have a meaning or message in my work. I am just trying to make beautiful jewellery, which is mainly about the colour. The artificiality of plastic I think makes the plastic a relevant choice of material to make the work contemporary. Because I feel we live more of an artificial existence than a natural one. We live with plastic in our homes; plastic is beach combing for the city.

CR How do you work with the plastics, what are your manufacturing methods?

SL I grind up and laminate acrylic dusts and mix more unusual colours than those found in sheet. I am also heat folding the acrylic into 3-d shapes. The acrylic is thin and lightweight so I can make large yet wearable pieces.

CR Which other materials do you combine with plastics and why?

SL I also use silver but mainly for earring fixings so far. Also felt because it comes in a wide range of colours and can be used in contrast to shiny plastic.

CR How important is the concept of wearability for your jewellery? How crucial is the body/ persona of the wearer in relation to your jewellery, to what extent do you design with the body in mind?

SL I do make some 'dress pieces' which you have to be careful with but I like the design challenge of making it wearable.

CR How long should jewellery last? (This is a deliberately open question)

SL My jewellery is handmade therefore quite expensive and so I think it should last for quite a few years. That is what separates it from costume jewellery which often only lasts for a season and then goes out of fashion or falls apart. It is also another design challenge; it is easy to make paper or feathers look delicate but it doesn't really fulfil the criteria as functional jewellery.

CR Is the longevity of your work a priority for you? How long would you like to see your work last?

SL Art jewellery can last a day e.g. Naomi Filmer's ice jewellery and fulfil it's function as art. Whereas commercial jewellery should last well.

CR To what extent can plastic develop a patina? Does it age well, accruing depth and maturity in its appearance, or does it seem tattered and tired?

SL Having worked in Lesley Craze Gallery and Tom Foolery I have seen some old pieces. Dyed pieces seem to go off its colour, fade or turn brown. Resin seems to last well as does acrylic sheet. Polished surfaces do get quite scratched. I have

not seen old pieces get a patina. I do like Bakelite pieces I saw in Paris; maybe they get a bit rounded at the edges from wear.

CR To what extent would your artistic intent become distorted if your work became damaged or altered in appearance as the result of wear, use or deterioration of the component parts? For example, the surface may become scratched, soiled, individual pieces may become broken or discoloured.

SL Unlike a leather bag I don't think my acrylic jewellery will gain anything with age. I would prefer to repair the piece by polishing it up again.

CR If damage to jewellery is the result of use or wear is this more acceptable than damage that has occurred as a result of chemical deterioration of the plastic or other material components?

SL Yes, it would be terrible if the piece deteriorated whilst just sitting in the box unworn.

CR Some damage is unavoidable if jewellery is worn and used, but if it is displayed in a museum should it remain pristine as it was made, or is some patina, wear or other damage acceptable in this circumstance, in your opinion? (Please consider both your own jewellery and that made by others)

SL I think it should remain as if frozen in time in a museum, preserved for future generations to see as it was.

CR How and to what extent do you research the materials you use in terms of working properties and longevity?

SL I am not very technical, it is more trial and error approach.

CR What, if any, preservation or care advice is given with your work, when sold?

SL I tell people not to spray perfume onto the plastic as the alcohol affects the surface.

CR If a component part of your jewellery was broken or lost, would it be appropriate to replace the component or would this affect the integrity of the piece?

SL I would want the piece to be either the same as it was before or just have a piece missing rather than have a new alien part.

CR Do you feel your jewellery ceases to be your concern once it has left your side? Should decisions regarding display, care and future of your jewellery be entirely the concern of others, or would you prefer to be involved in this? (I am particularly referring to the context of a museum or collection)

SL Yes until I have to repair it. Museum curators are probably better at display than I am.

David Watkins (DW)

18th July 2006

**Interviewed by Cordelia Rogerson (CR) at the Royal College of Art,
London**

CR When did you start using plastic materials?

DW My earliest use was right in the beginning of the sixties with sculpture when resin and fibreglass was the new wonder material and there was some extraordinary sculpture made in this country. Philip King was a great experimenter and had this tendency and Bill Tucker and a whole lot of people. I picked up the technique as a student in the sculpture department and used that in quite a lot of my early sculpture after I graduated. So that was my first use of plastic.

CR Was this formally taught at art school?

DW No, it came by a back route in fact. I did a little commission with a fellow student for replicating some little bronzes and he had heard about the possibility of using fibreglass and resin filled with bronze powder so it looked like bronze. I think they still probably use the technique.

CR Was there general excitement about the new materials?

DW No, not really. We were still coming out of the fifties, which was rather a traditional period. But nevertheless resin and fibreglass was getting underway not just in terms of cold cast metal, which is what they called it, but in terms of very bright colours and thin shell constructions. I think they were beginning to use it in the motor industry for plastic bodies and I used it for very colourful sculpture and I think at the beginning of this book (monograph) there are some things in black and white that would have been very colourful. This kind of thing, they are painted wood constructions that would have been very colourful. Partly it is a purely technical development and also to do with aesthetics in a sense and that particular technique gave you a great deal of flexibility in terms of form. Anything you could model you could then reproduce in plastic. With different plastics you have to use different technology.

CR The character of plastic dictates what you can do with it?

DW That's right. The other thing I have always been faintly interested in but had never used was acrylic. Although I experimented with it a little bit I didn't choose it for anything serious. I used it to make boxes and to put small sculptures in. I introduced it into jewellery along with Wendy Ramshaw again in the early to mid sixties when we started a company called *Optik Art*. That was before *Something Special* and through a friend in the graphics industry got involved with a printer who could print onto acrylic, which was a strange idea. I suppose they were doing it for signage maybe it was a technique used for point of sales material and so on and we picked that up and used it to make jewellery.

CR Did you feel you were being innovative at the time?

DW We couldn't see the broader picture because we were beavering away in the corner as you are in small startup businesses. You don't see what anyone else is doing. We were certainly aware that we were being responsive to opportunities in the way that larger companies couldn't. I think at another stage around that time we were commissioned to produce some laminated acrylic jewellery by the major jewellery companies. That never really got off the ground. I did drawings and it was an idea that was in the air commercially and people were doing it. I can't quite give you the date on that but it has to be around 1965.

Acrylic was the first and most important and I continue to use it now.

CR In your work were you always interested in the technology of the plastic. Getting a hand finished perfect surface?

DW Often that has been the case, it has been a combination of machine and hand all the way along. I developed a formal language through acrylic. There was a minimum amount of machining at the front it was mostly manipulation, bending, forming fitting, as is a jeweller's way, a very hard slog.

This is a fairly early piece, this is coloured and formed. This represents the first stage of the acrylic work if you like and this is the latest stage of that period. It's a combination of fabrication, machining, forming and in the case of this range of work not dyeing of course because the material is used in its natural colours.

CR Colouring acrylic to create your language.

DW Well I do actually. These things are very big and kind of ungainly in a way and the issue of making them beautiful was important but also it did help me to get on, as it were. The forms and somehow the form and colour became very linked and the development is difficult to explain.

CR Were you trying to make plastics seem more valuable, raise its profile?

DW Not really a conscious thing in that respect, I thought the material was very beautiful and I was trying to bring out an aspect of that beauty as best I could. There was no political angle, as there would be with some people. Some artists said I am using acrylic because it's not precious, it's not gold.

CR Was that later than your first use of acrylic?

DW It came to a head a little later but not so far ahead. But that was not my concern. I was concerned with materials themselves and what kind of forms I can get from them. But I always thought acrylic was a very beautiful material and there are ways of expressing that in the way you handle it.

CR And the surface you created was an emery surface?

DW Yes

CR And that was quite important to the appearance of the piece?

DW Very, that was laborious.

CR You combined it with a high value material such as gold

DW That's true, I started using silver and then I progressed onto gold. The bigger heavier pieces are all done with silver and at the same time I was getting to grips with lathe technology. I used to be interested in small scale engineering and developing that so at the same time all the screws and threads bearings and all this kind of thing was a part of it.

CR You also started to use other materials, Neoprene, Colorcore, what was your interest in these?

DW That's awfully difficult you know. The Neoprene is a big part player in another story. The underlying story is that at a certain moment having done these tighter and tighter constructions and very sophisticated constructed objects and with reducing scale of material I finally got to this very thin wire and I began to treat it in a more improvisational manner. That's fine because it was research into possible forms and I had had a sample pot of Neoprene sent to me as a professional designer some years before and I had no use for it. I suddenly remembered and I made this connection that I had this material that produces a pig like skin and soft pigskin surface and I thought if you put that together with these very delicate constructions then you have something really quite sensual in a different way you know so I went looking for it. I found it a really interesting material, difficult to handle but interesting and I just charged into it and got loads of colours and set up and solved some of the manufacturing problems one way or another. Not a material that is easy to use on a small scale.

CR How did you apply it to the wire?

DW Sprayed. It comes as a kind of paint which has to cure and industrially you would be spraying it on with electrostatic equipment so that the object you are spraying gets evenly coated. If you are not working at that scale you have very thin wire to coat it's a nightmare, a total nightmare.

CR Did you set up a spray booth?

DW Yes.

CR The whole idea of the pieces (Landline 124) is that they can be placed in any configuration?

DW They were the first pieces I made that I layered in that kind of way and obviously I am still playing with the idea now or I returned to it. They were literally separately situated and that is partly because you can play these games with combinations or colours as well as combinations of form and it was through

that idea of layering things up that I developed another kind of language which became more figurative. I think I was tinkering with figuration in that there is a post modern way and it started to really move for me.

CR You see the artistic potential in these materials?

DW Absolutely

CR No hierarchy what so ever?

DW No I don't think I do. I think there are moments when these materials in combination with a certain form just become very beautiful and even the most precious material could not express the form any better.

CR Is it a lot of intuition, you happen to get the right form and material and it comes together?

DW I guess a lot is intuition until the point that you have absorbed the lessons of intuition. It becomes a standard kind of process in which you can invoke knowledge and call on that knowledge and use it in a design sense. But often you have a form and think what is this trying to tell you, what colour should it be and what kind of surface should it have. I do it a great deal, there is no message it just is its own aesthetic.

CR How important is wearability to you?

DW It is important in the sense that I try to make, I have always tried to make, jewellery objects that could not be anything else. They relate to the body in scale in such a way that I have this feeling that if they were buried and discovered by archaeologists in the future, when they looked at them the only way they could classify them is jewellery and in many cases it would be so blindingly obvious, in other cases there would be a little doubt but not very much. That is very very important to me.

CR Your definition of jewellery is something that could be worn on the body?

DW Absolutely, I don't stretch it too much. I've had a few students and a few artists out there who more or less stretch the definition to anything you can carry and I don't go that far. I have a much more classic idea that which relates to the body but a lot of these pieces and the neckpieces are a good example, are forms that respond to my desire to avoid fixings, clasps, and so forth it really quite critical. If you take a ring and stick it on your finger and take a necklace and put your hand through it, it's the natural thing to want to do with this form - a bracelet, put your hand through it - that's really where I am coming from and driven a lot of my work. That's why they are the form they are and how they relate to wearability. They might sometimes be rather demanding and extreme but it couldn't be anything else but wearable objects, that's what I want.

CR The technology you used on your latest work, were these laser cut?

DW No, water jets, all technologies have some limitations and I can't remember why but I preferred water jet than laser. The considerations are rather technical such as the amount of fall out from the top to the bottom of the cut, it's not completely parallel. There is also the nature of the cut, which is different from one technology to the other, and things like minimum radius a tool will cut around a corner.

CR These define the design as well?

DW Something that has to be taken into account. You certainly have to engage with the technicians who are going to run the machine to do the job and suggest ways to get what you want which might not be the standard. Industrial standards for this would be very different. Laser will give you a fine resolution but there are other considerations.

CR The rough cuts here.

DW They are quite coarse and I kind of like that.

CR Which is in contrast to your finely finished earlier work

DW It depends. The Science Museum pieces, two were purchased at the same time. This piece the surface is finely honed with a jeweller's file by hand and the

silver is polished. The companion piece in gold and acrylic was finished with an engineer's file, scraped and rough, gold and acrylic meshed into the same rough surface. I probably never even had a photograph of it, I haven't been very good at archiving.

CR The difference between the hand done and the technician made pieces is this a deliberate development, a reflection of technology, and hence chronological?

DW This is probably chance. All these things came back to me anyway and they get hand finished and often come back to be reassembled. Nothing in my work you can take directly off the machine because the real aesthetic had to be defined by the surface finishing – to find a way to make the materials speak that is often on the surface.

CR So surface is very important?

DW Very

CR You used CAD for your work, do you see that as quite innovative?

DW I certainly was early into it, especially for drawing. I experimented with 3-d modelling at the end of the 1980s and didn't find it very attractive or necessary for my work, so much of my CAD work has been drafting 2-d works. I've gone in and out and I started using computers for experimental design as long ago as 1974 but it's really only after that last 15 years I've gotten more into it as a natural tool rather than a pencil.

CR All of your later work starts on this?

DW Pretty much, some cases there are sketched design, there are some qualities of objects of this kind that really computer design is not going to give you – tell you enough, feedback enough these strange aesthetic decisions you make when you go to work, the dialogue between you, the pencil and paper. A lot of the decisions I can make from a computer and I am perfectly happy to do so.

CR There is inevitably a graphic quality to your work

DW Yes, certainly but then that's because jewellery is a very graphic thing it tends to be very frank.

CR And you are trying to enhance the wearer?

DW I believe so, there are other explorations going on, some of these things are explorations of forms interpretations where I take the opportunity to bring in possible narratives - on the whole that's not the most important thing, it's ornamentation of a person.

CR Should jewellery last?

DW Hopefully yes, I know there are many points of view on this. In principle I am a little bit old fashioned, I put the care into objects because I expect them to have a lasting presence one way or another.

CR Would you like your jewellery to last?

DW I would but I can't guarantee it and I'm not going to rationalise it and say it's ok if it falls apart because I don't think it is - it's unfortunate. I will not rationalise that statement.

CR As a conservator I am quite broad minded about this.

DW You have a lot of problems coming up. I get quite a lot of students who somehow conflate the concept of their personal memory and the idea of the effects of time on the objects. I'm not sure about this. I've had enough arguments about it to be bored with the whole thing but that causes huge problems.

CR It does but I believe we should listen to the artists' point of view

DW I think that tendency really needs testing. I'm still rather sceptical. In many cases you would nevertheless in the gradual decay of the work recognise a moment of particular aesthetic significance. I guess that when pushed to the wall they would say I want to stop the process right now. In other words it is not actually a process they are in control of and the rationale doesn't work.

It's a very confused and confusing point of view. I understand why people get their heads into that position but I am not sure they have worked out a good strategy for dealing with it. They are not in control of it and it's a part of this whole implicit belief in the importance of intuition instead of rationality and if they were being rational they would not do this. It is possible to have some kind of rational control over making art.

CR Are you instilling this in your students?

DW No I challenge all kinds of beliefs in students. I find this particularly difficult to handle and try to get them to express what it is they are actually saying.

CR They are too close to the creative process?

DW No, to be fair to them they are really trying to get the idea across and I think students become more and more able to deal with these kinds of issues verbally but that doesn't always mean the whole picture is necessarily grasped, that is the problem.

CR When you were creating your own work many years ago were you thinking along those lines, it should last one generation, two?

DW I would not put a time on it because there is no way I could. I know in very general terms that high quality acrylic was supposed to last for a good many years and probably would eventually show signs of ageing, cracking etc but I basically wanted a beautiful form and that was the most important thing. If it had been demonstrated to me that the thing might only last 10 years then I would have had to have thought about my position. I would have decided where I stood. But it was not quick like that, it was a long grey area stretching off into the future. It depends upon the conditions in which it is kept, some things will be like the day they were made.

CR In a museum setting do you wish the jewellery to be in a better condition where it will be seen by more people than in a private collection?

DW I am pragmatic about that. I think people use things and they get worn. The museum ought to be presenting my vision the moment I completed it. I would expect that but I know you don't get that in all circumstances. I have to be philosophical about it.

CR Do you believe a patina can develop?

DW I don't think I have observed that.

CR I have a little theory.

DW I have never really gone into it.

CR It may be called use wear, but essentially I believe that plastic jewellery will take on a patina from being worn, scratches, marks so forth that demonstrate the presence of the wearer.

DW It's a strange use of the word patina, a kind of generic term that is a surface finish. Yes on an aesthetic level I suppose that's true. I really am a pragmatist and I am very suspicious of the idea that things implicitly gain beauty as they get older, in fact, I would say that they get patina (laughs). They betray their age and their use and this is interesting and occasionally to beautiful effect but I don't accept that is more beautiful. It doesn't scan for me. It looks old and interesting and begins to have ethnicity, social attributes if you like and that is fascinating, however, it not the thing, it is other things overlaid on it.

CR True. If this lost its emery surface and became smooth does it misrepresent your aim and is this a problem for you?

DW Well yes, it would look nothing like this and I would want to take it away and bring it back to its pristine state. The only examples of that I have seem have been acrylic and gold bangles I used to make quite a lot. Some collectors or wearers of jewellery love them. Some people wore them every day, which is for me a big stretch because a lot of my work is for occasional wear. But people love it and wear it every day and these things which were filed and rough have become mirror polish and people come to me and say look it's got a beautiful polish. But for me it's beautiful in a way but it's not the beauty I was proposing

because I could have done that but I chose not to. But it belongs to them and they love it and it's acquired all these associations. I also did a steel and gold pieces and you know people have a great deal of acidity in their skin and at the time I made them I almost buried on in the garden to see what happened to the steel and gold. Then I thought I hate you for thinking that idea – because it's a really really awful arch and I never did it because I know what the answer would be. I thought someone in Crafts magazine would go nuts for a story like this and I thought that would be contemptible of you to do that and then to fall for it, I can't possibly do it. But I came across an old friend recently and she had bought one of these bangles and the steel is reduced to a tiny thin web and the inlaid gold bands are tiny dots with tiny bits of eroded steel between them, it looks thousands of years old, extraordinary.

CR You do accept things will change over time?

DW Of course they will

CR But in a museum you prefer it to stay the same?

DW Yes, absolutely. I think the whole point is to preserve it if possible.

CR You don't particularly want people to reinterpret your work?

DW It depends what you mean.

CR If the surface changed through deterioration and people started to think that this new aesthetic was a newer understanding of the older aesthetic.

DW I don't think I have a position on that. There may be things on that that are interesting that had not occurred to me. Obviously things will change and there will be discussion of whether or not to remedy. My view is to do the best you can. The minimum intervention is probably to wash the whole thing using just a mild solution of detergent and wipe off. The other solution is hard work, that is to separately clean, depatinate the silver elements so they become bright white metal – I have done this. With the necessary skill and care this is terribly possible. You could argue that if this was repeated every five years for the next 5000 years the silver would begin to wear away and a great deal depends on the

conditions under which it is kept, direct sunlight, UV light. On the whole there will come a time when people say you can't display it.

CR. Do you think you should have input to say it was non-displayable?

DW I just don't think that's practical. In a way who am I to say.

CR You have rights as an artist.

DW Yes, but once it has changed as I saw it I have to say there are other issues and values at work and amongst these are issues of the broader community. It's interesting seeing the work whatever reason and having access to it for reasons that have nothing to do with aesthetics. I do suspect that particularly in the States there may be quite a few damaged or incomplete objects floating around with my name on it.

CR Your Neoprene pieces at mima (Middlesbrough Institute of Modern Art) are showing damage, abrasion and debris stuck to the sticky surface.

DW That can happen. It's been out and about in the atmosphere and it has been handled. I have quite a few pieces squirreled away from the same period and I occasionally bring them out and put them on exhibition and these are fine and I do know they are kept well. In a box interleaved with tissue paper. There are problems with Neoprene I know that.

CR The mima pieces look ok from a distance but they cannot be touched any longer.

DW That is a serious problem. They were regarded as fairly cheap and cheerful things by some and they bought them for that reason. I have seen people with these and they are filthy but still wearing them. I don't think there is much to be done now once it starts to decay. I don't know frankly even if it is applied in highly specialised conditions if it has a long life. Most synthetic rubber does not.

There were difficulties doing this work and I would never hand on heart say that I have given the Neoprene itself the best possible chance. From one piece to another some kind of slight technical difference or layer, heat or time in curing.

CR Did you treat the wire before you applied the Neoprene?

DW The surface would have been very clean, wiped with white spirit, it would be abraded then the material has a primer layer a creamy colour underneath. I had always assumed the primer layer has a greater adhesive quality than the top layer but that may not be the case, I am not sure what it is doing. Getting information on these things is very difficult. Getting the material was a nightmare, in the end you couldn't buy it in this country and you couldn't send it by air because it was explosive.

CR Plastics in industry are designed to last a few decades only say 30 years in art it is expected to last longer.

DW It's problematic. It's not a material I would recommend using if you care about that. It was just an exploratory material.

CR Acrylic and Colorcore are more stable though

DW Yes, they are more stable, I admit I don't really know, when you look at what it is supposedly made of and so on. I guess it's as stable as it can be but then again oils from the skin are going to affect it. Hard Melamine is pretty impervious it doesn't bounce, acrylic does more.

CR Theoretically exploring your thoughts. If a piece of yours were broken and secured back together again but it was not strong enough to be worn and so able to demonstrate form but not true function anymore is this acceptable?

DW Yes, because a part of what I am doing is that it's a kind of fiction. It addresses the issue of how jewellery might be. There is as much for me in the communication in the form of a piece of jewellery as there is in the wearing of the jewellery. The idea is gotten across by seeing it.

CR So in a museum it does not matter if it has lost its function.

DW Lost how it works in the world but then the museum is not the world. It's one kind of telescope and particular point of view. It is difficult to present

jewellery in a meaningful way in a museum that is why I push my students so hard to explore what photography can do. They don't only show the work they really get the sense of how it is to wear it. I come from a background where a publisher or a museum would not publish a picture of a piece of jewellery being worn because it somehow gave too much specificity, took too much attention from the form of the object so looking at the person gives all kinds of complications. I happen to think it's a very powerful tool and if you are exploring these forms to go on the body then you ought to explore that very fact if you can.

I was more aware of this when I first started than I am now. I don't think about it now but so much energy went taking a photograph goes into expressing exactly what that object should express as well as all of the other stuff you could get an awfully sexy photograph. Something with real stopping power but it wouldn't represent the work actually and really only the artist really knows what to look for. It's true that you put a quality object in the hands of a quality photographer and they might tell you something you had not thought about, you could learn from that, but fundamentally you need to be in control. It's all part of the story. What you are talking about is not just an object but image, fiction, narrative.

CR You are an artist who likes to be in control of each process in the creation and presentation of your work?

DW Yes absolutely, good god yes, no hiding place. I have never even flirted with the idea that aspects of the objects are beyond my control. I have total responsibility for the way it looks.

CR Do you feel responsible, even after 20 years for some pieces?

DW Absolutely, that's right. At the same time I can't reach out through other people in god knows how many situations all over the world and hope to have any control.

CR And if a museum contacted you?

DW I would give advice and become engaged as far as I could. I have had one or two instances of this but I don't expect it, it's out of my hands. If someone owns it it's a pity if they represent me badly but in the end I can't control it. I am just not prepared to write letters like my wife, I would rather make the next thing.

CR Fine Artists seem more litigious than Applied Artists, despite the Berne Convention.

DW All kinds of things are wrapped up in that. It is troublesome and time consuming to assert ones rights. A fundamental problem for a lot of jewellers is that in comparison with workers in the Applied Arts they are not getting paid for most of the work. They don't have the economic cushion to fall back on when they are pursuing their rights. People pay a great deal of money for a painting and a dealer gets a lot of money and because people pay more money they treat things with more care. So everyone there has an interest and sufficient collateral to permit them to pursue safekeeping and conservation.

CR Do you think this is linked to status of artworks as well?

DW May be one or two things are put together somehow. I don't know the answer to that. I know that some of us in our world enjoy a certain status and are able to talk to museum curators on level terms, should we choose to raise the issues. I would regard it as rather a waste of time, an empty pursuit, which takes me away from what I want to do in the world, which is to make objects. That's what I can do. If we had greater economic status then I would probably have a dealer who would do this for me, so artists can get back in the studio and do some more work. It sounds cynical but it's realistic.

CR Do museums represent jewellery adequately?

DW Wow! Only adequately but then again I think they have problems in that they inhabit a history and culture of an institution where jewellery is not thought to need very much space – small objects. I think if anyone wants to display jewellery well they need to throw a lot of space at it. If you pursue the analogy of objects to be worn then in a sense you cannot present a wearable object without having a virtual space around it that would be occupied by the person. I

don't think in many cases jewellery works unless it is allowed to breathe, unless it is explained in a broader sense.

CR Such as Ruudt Peter's performance work?

DW That's a way of grabbing space and that's a strategy but I don't think I would do that. I used to show my work on mannequins because people were not thinking in that kind of way, the body and what is going on here and I was determined that they would. But again it comes down to economics not just money but time and effort. I had to let that go because it was always problematic for museums and galleries. For me it was very costly and took a lot of energy to do it. I continued to believe it would be the right thing to do but you have to be pragmatic actually and say well I could throw my life into this or I can make another 10 pieces. There is an area where I can't be wrong and that's making the work. I can be wrong on displaying it. There have been many times when I have said to myself, David, these people are the professionals they will do it.

Paul Derrez (PD)

13th November 2006

Interviewed by Cordelia Rogerson (CR) at his Amsterdam home and storage space of his collection

CR When did you first start using plastics for your jewellery?

PD 1975, in the year I was doing my goldsmiths training. The main reason was colour and it was cheap. It fitted in at the time that things had to look modern futuristic.

CR Was there a political influence such as the democracy of materials cited by some at the time?

PD This added to it.

CR Were you influenced by other jewellers, were you taught to use plastics?

PD No, I was not taught as I did a traditional goldsmiths training, so it was the influence of what I saw in art jewellery, design jewellery and several people using plastics since the 1960s.

CR Do you feel you were influenced by Fine Art, furniture design and the design world in general?

PD You can see parallels, I don't think it was such a direct inspiration, more a parallel.

CR My theory is that it was inevitable that jewellers should start to use plastics, would you agree?

PD Yes, to see it in all products.

CR You mention that other jewellers you knew at the time were using plastics?

PD Yes, in the Netherlands. I had started the gallery already in 1976 so it became one of the possibilities one of the materials and of course there were several kinds of plastics and rubbers.

CR You chose Perspex initially?

PD Plastics in the Netherlands started with Perspex. I shouldn't say it replaced stones but it had the possibility to create minimalism and simplicity and with a hard material you could work, create, shapes you could create with metal. At a certain point people also used soft plastics. They used that for flexibility and the possibility to make things fit or changing. The Hans Appenzeller pieces in the mima collection is an early example of using rubber. In 1969 Marion Herbst combined aluminium and Perspex. Others used steel and Perspex. I followed in that tradition, who used it in combination.

CR Did the juxtaposition of precious/non-precious materials seem natural to you.

PD Yes it was the result of my goldsmiths training, finding it easy to work with silver and other people choose aluminium and saw themselves as designers and made things on the lathe. The choice of material relates to technique and educational background.

CR Did you use self taught techniques with Perspex?

PD I did my practical year for my goldsmiths training in the workshop of Hans Appenzeller and so I had to work for them. I assembled the jewellery produced in edition designed by other people and partly assembled in the workshop of Appenzeller. There was a group of people working in avant garde way, of course using different techniques and materials. I was very excited and had the possibility to do my practical year with those people and I grew naturally into it. I was very lucky, in 1975 I designed this ring which became a kind of classic.

CR Was the interchangeable element of the ring quite a new idea then?

PD Yes, there was Bruno Ninaber van Eyben, he had the goldsmith's training but he became an industrial designer, and he had a bracelet as steel part with

Perspex elements in it. In that respect the idea was not new to have parts you can put together, but the shape was.

CR Can you see differences between jewellers in the Netherlands, Germany and UK in their use of plastics or are they all part of a similar movement?

PD No I can't say. In the late 1960s 1970s there were stronger national identities. The Dutch identity was slick and industrial using ready-made materials. A lot of the work had a minimal industrial look and in Germany it was much more decorative. The UK used more textiles and fibres.

CR Is it your idea that is valuable in one of your works?

PD The idea is the first priority and the concept. Then that's also my way of selecting and looking at things for the gallery. The concept has to be new and interesting how it's translated into shape with the help of techniques and materials. It starts with the idea but it's not always such a rigid order. Sometimes the material is very crucial for the whole thing and the material is handled in an original way. Sometimes there is a different balance but the ingredients are concept, design, shape, use of techniques, materials and in a way wearability. But for me this is a very broad thing, that's not so important, then we can call it an object.

CR Wearability, is jewellery defined by the fact that it can be worn on the body?

PD Yes, then you can call it jewellery.

CR Do you always imagine the human body whilst you are designing.

PD I also make brooches and the wearer is very independent and unimportant in a way but with the collar there is a closer relationship to the body and you have to cope with it in a certain way. But even a piece like this the person can become a kind of plinth for the piece.

CR Were you involved in creating this image? (Dormer & Turner, New Jewellery, p111)

PD No, this is David Ward, he made this. The constructed photograph it is not natural, you don't see the arms, normally it is much more resting on the body.

CR Has he expressed it as you envisaged it to be worn?

PD More or less. It's surprising to see this image using my piece but I am happy with it, it's a strong photograph, but a bit unnatural.

CR I wonder about the positioning of the body as a pedestal for the object. Should the piece be more fluid with the body?

PD No, I am aware that with large body pieces it is a kind of theatre. The movement is very important, when the person moves the piece is always different.

CR How is this piece created, from a strip of PVC?

PD I made it in 1979 along with my pleated brooches with silver. I introduced colour and enlarged it a bit until this, the ultimate. It's made by hand with a paper template then the plastic version after. I fold them then drill them, glue it and pass thread connected by tube and glue it together. There are two seams in the plastic.

CR Does the use of images describe things in a particular way but does this take away an interpretation?

PD It's exciting and also helpful. You know maybe a bit about the history of Galerie Ra? When we moved in 1983 to the spot where it is now I started to use posters, photos made in co-operation. To have pieces shown on models a clear choice to create a new image by using the piece. In the beginning the makers were very afraid of that. They were afraid to lose their grip or maybe their identity of the piece or the integrity of the piece. But when it became a series of photographers, each year a new one, they realised also it was a very interesting place and it doesn't hurt their work. So afterwards it was not a problem.

CR It can be a huge benefit for a conservator.

PD Yes.

CR Considering your recent work valuing the mima collection, when you made your early pieces did you think they would increase in value in all senses and did you create your work with longevity in mind?

PD Not so much. The creation and promotion was important and the idea of collecting them was not so important in those days as now. Of course museums bought already from the gallery and the goal was to make new works, make people aware and interested especially in the 1990s. We really got quite some collectors in the Netherlands and it changed the market, and I think it changed the makers' attitude.

CR Are you surprised by their continued resonance now?

PD No, as with everything what comes is a kind of icon or major piece for a time or an artist.

CR Is jewellery meant to last?

PD Not always

CR And yours?

PD It depends how important people find the piece, if they don't find it so important they throw it away.

CR How about your perspective and those pieces in collections?

PD It's still too close. I am part of the history. It's amazing how things made in the 1970s and 1980s now become collectors items with substantial value. I know I am part of it, my work and how the gallery works as part of the mechanism but at the same time I have resistance to it because I am interested in the creation of things. Collectors value it in a way that is conservative, it is always based on recognition and when things are new there is no recognition. I am a bit dull and I don't know how to deal with it. Like going to *Collect* which focus on collecting then you realise very strongly it's all about prestige and value and for me

jewellery also represents ideals, what happens at a certain time. You can express a certain time or feeling in jewellery and it can also be just for fun or joy.

CR Is forcing something to last not always appropriate for you?

PD I can imagine as an opposition against collectors, value that somebody makes jewellery that plays sabotage to that idea, making it just for a moment.

CR If pieces you have made and is in collections started to show deterioration, such as becoming brittle or yellow. Is this a problem for you, how would you react to that?

PD I find it a pity for the museum.

CR As an artist?

PD I don't worry about it, if it is broken they should throw it away. I didn't make it last forever. I didn't think about this. I am more aware that when people wear it, it doesn't fall apart, it needs that solid condition. I never thought about what happens in time.

CR Have you ever considered conservation issues at all?

PD Yes, because with the private collection we have several pieces that disappear, fall apart in an irreversible process. It's a pity but not so dramatic.

CR Considering your position as a private collector, does that change your perspective on your own jewellery. If they fall apart or do you just accept it will degrade?

PD To degrade is ok, what I don't like is when pieces are technically poor and they fall apart when they are worn.

CR Do you design with that idea in mind?

PD Yes, I think in pieces I make it's not such a problem.

CR Having seen degradation in your own collection does this influence what you select for it?

PD Then I think I should mention something else. I had pieces sold through the gallery and they proved to be unstable. Think metal pieces and textile and that I find very annoying and a few times I bought them back and put them in our private collection. I don't wear them, I just keep them as a nice piece in the collection. It was my solution for pieces that are unstable in their condition, technical condition.

CR So you can see a distinct difference between jewellery that gets worn and jewellery in a collection?

PD With our collection we reached a point that first you will buy pieces to wear and then you have so many pieces and also the history of the gallery. You follow people and it's more important that you have an interesting piece from that artist, that collection and wearing it becomes less important.

CR The significance of the piece drives your interest?

PD Yes, but it started as pieces we wanted to wear.

CR Have you sharpened up your selection process now? Before it was a very personal choice and now it has become an historical collection.

PD Yes, but there is still a difference between the choice for the gallery programme and for the private collection. There are two people involved and it is not a strict programme so we can choose more spontaneously and incidentally. But for the gallery it has much more to fit into a whole system.

CR When you started the gallery in 1976, what was your objective and rationale?

PD There are all kinds of motives, personal too. I had the experience as an apprentice and they closed in the year I was working there, bad for me. So there was a kind of gap, no place any more for the makers and for the audience. That was an ideal situation to start something and I had the experience and I am

from a jeweller's family. My grandfather was a goldsmith and my father a watchmaker and they had a jewellery shop in the provinces. So I did my goldsmithing training with the idea to take over the shop but living in Amsterdam and Willem that was a perfect alternative. My idea that especially a small shop has certain rules and I feel very comfortable in a small size enterprise. I don't even think what you sell is important after all maybe with a different background or connections I could have become an antique dealer.

CR You are interested in the business side?

PD Yes, the independence and variety in what you do. Artists, customers, display, promotion. So I feel comfortable in the mix of activities.

CR Who did you first exhibit and what was the stated mission for the type of jewellery you sought?

PD When I look back I continued partly with the people I exhibited in Academy Sieraad but they had quite a strong stylistic choice. So that year working with them was very useful, it made clear to me what the weak points could be, so not to make it stylistic and to go international. Both points are important to avoid getting stuck into just the limited field.

CR Who are your major customers?

PD Everybody. Soon it became a national audience but still the Amsterdam audience is very important, since *Collect* also an international audience.

CR *Collect* made a big difference?

PD Mainly private collectors.

PD Also museums went to *Collect*, so many museums bought. In general I must say that I sell regularly to museums internationally. We have just celebrated 30 years, have you seen the booklet? The Stedelijk Museum organised an evening to dedicate it between the museum and Galerie Ra. The curator was working there now for 10 years. She wrote the last essay in the book, she mentioned

that from their 500 pieces the bought since World War II 150 came from Galerie Ra. All those years we were quite in the picture.

There are two international jewellery collections in the Netherlands, Stedelijk is one. They have their own policy to deal with it and preservation, they have new storage and look after pieces.

CR I have spoken to Thea Van Oosten from the Instiut Colectie Nederland about this.

PD So it's a concern for them.

CR When they have bought pieces from Galerie Ra have they seemed concerned with the preservation issues or just the art historical issues?

PD When there are clear signs there will be problems in the future she is aware.

CR Does that prevent her from buying things?

PD I think it can.

CR James Beighton at mima has the standpoint that he will keep buying what he feels is important and should it degrade then he accepts this.

PD But especially people like you who are building up experience and knowledge about things that happen, maybe it does not have to happen any more.

CR I feel at present people don't know how to handle jewellery, I have seen finger marks etched on the surface of Perspex, these surfaces are actually quite fragile.

PD We have, especially since the 1990s, quite a number of collectors here and one extreme collector he buys new stuff and keeps it in a box and it shouldn't be worn and then they are ready for the museum without any scratches. But that's not my attitude, I don't find it so serious when there are scratches and things. For me they are not dead things, they are things to use.

CR Do you believe plastic jewellery can take on a patina with age, is such use wear attractive?

PD Yes, there are quite some jewellers who use that process in a more conceptual way and others that is part of the natural change of the material, which is nice. Adding history to pieces can be positive. I think that for a lot of people jewellery is connected to sentiments and memories. Especially the process of wearing adds to it but we don't call that damage, in a cultural way it adds value.

CR Can you explain the physical difference between use wear and damage?

PD It has to do with the number of scratches. In the beginning people are embarrassed and it needs a certain moment that you don't feel the individual scratches any more and it becomes a skin.

CR Coming back to Galerie Ra. Do you think the gallery has influenced the development of jewellery? Providing ideas?

PD Yes, I think that it makes me think of a discussion in those days. I started the gallery because of the group at Sieraad. They started to come together in a union and they discussed if their field should be integrated into the broader art world. If their work should go into shops, main art places but in the end specific places were created for it. This was a good way to do it, it showed the field in a broader sense, by specialising you can put more knowledge in that and it worked well in every aspect, for makers too because it became a focus of quality and style.

CR Do you think museums display jewellery well?

PD It's not easy to present jewellery well. Even if you try hard it can be a disaster.

CR Is that because it is not shown on the body?

PD On the body it's not easy either. No that's just a difficult job. It just talking about professionalism and the curator sometimes has too many duties and not

always professional training or talents for specific duties. Someone can choose beautiful pieces but not be able to display them. To display jewellery properly needs certain professional knowledge and experience.

CR Can you articulate what is so difficult about it?

PD It is no more so than a display of chairs, but it is a professional activity and you need experience and understanding of the work, concepts, how to combine things and engage other people.

CR Is the use of images important in displays?

PD I think those in the jewellery world as part of the art scene and when you use images they are an illustration. In general pieces made by artists are conceived as a piece in itself. It has to communicate also when it's not worn. It is not necessary to see how it is worn on display but it can be a nice addition. The fashion world is opposite. General impression is the main thing here and an individual piece is not important.

It's a choice which was made in the 1970s to join the art world. If there had been a priority for other fields we shouldn't have this discussion here.

I want to ask you things especially now I am involved with the mima valuation. I have no experience of that. I am thinking between the possible conflict between insurance value and replacement, but they cannot be replaced. We have the price it was bought for, then have the market value at auction then cultural value. How should this be handled? The end will be a mixture of these aspects. It's even possible that at a certain point a museum buys a piece that in 10 years later the value is half of it, so what to do.

CR A conservator will generally consider the historical or cultural significance of an object over and above its monetary value. Theoretically at least everything is treated with the same reverence. The cultural value of the mima collection has increased considerably.

PD So you leave out the acquisition money, what it has cost. The mima pieces should be restored and remade so they are worth their maximum value.

CR This is not necessarily so, restoration is a very different process from conservation. It may replace original material and thus interfere with the original fabric of the work. A conservator would not seek to do this, they try and maintain what is left of the original and only replace on occasion possibly if the artwork cannot be understood without it.

PD I never heard that before. Now everybody regrets the handling collection at mima?

CR There is damage to the collection now because of it.

PD Yes, this is quite serious. But there are no absolute rules to deal with valuation?

CR Not to my knowledge or within my experience.

PD It is more the job of Christies agents to do this.

CR I am sure they would put money to everything and anything. But I am sure an object in good condition would be worth more though.

PD What makes it very difficult is that the pieces are still young and the knowledge is very specific. You get remarks now, it is worth this much, but when it is properly repaired, it will be worth more.