

**Assimilating the Deleuzian Objectile to a Pataphysical Clinamen:
A pataphysical objectile for design research.**

by

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**Thesis submitted in Partial Fulfillment of the Requirements for the
Degree of Doctor of Philosophy**

School of Arts & Humanities

Royal College of Art

2019

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A pataphysical objectile for design research.**

DECLARATION

This thesis represents partial submission for the degree of Doctor of Philosophy at the Royal College of Art. I confirm that the work presented here is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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.

Signed: Derek Hales

Dated: January 7th 2019

Abstract

The following thesis is an investigation of the objectile and the clinamen to demonstrate how one is assimilable to the other. If, at the time of writing the thesis, the concept objectile was already lodged on the plane or strata of architectural computing, then it is a supposition of the following that the objectile might be re-mobilised for speculative design research by assimilating it to a pataphysical clinamen. Clinamen, the following research will show, serves as a prototype for the science fictional, philosophical and architectural machines to be claimed as speculative objectiles for interdisciplinary design research cultures: Clinamen exemplifies the paradigmatic pataphysical and bachelor machines of schizoanalysis and the speculative research object or objectile. Which is to say, the concept *clinamen* possesses an interdisciplinary mobility as philosophical object and as a pataphysical machine, the *Clinamen*, a painting machine designed by Alfred Jarry's pataphysician Dr Faustroll, named after the Lucretian atomistic concept resurrected by Jarry for the twentieth century. The following Thesis therefore composes a research plane on which to create an encounter between philosophy, speculative culture and design research, such that pataphysical concepts can be productively put into confluence with discourse on speculative design as a mode of practice-based research in pursuit of its principal claim: that the concept of the technical object *objectile*, created by philosopher Gilles Deleuze, can be assimilated to a pataphysical *Clinamen*.

The terms of the hypothesis reconsider the objectile as if a 'pataphysical fiction' of design research allied to a 'science of imaginary solutions' in a comparative analysis with the objects of a 'science of the artificial'. Implicated in this research composition is the claim that when Deleuze suggested a book of philosophy was of necessity in part the production of a kind of science fiction (Deleuze [1968] 2004, xix). The suggestion made in the following is that

this science-fictionality was pataphysical leading to a confluence of pataphysical science, fictional and possible worlds. Furthermore, the hypothesis entails that Deleuze's own claim for science fiction might be extended to his technical object 'objectile' and, yet further still, that in this extension is the scope or potential to make a philosophical contribution to design research by extrapolating implications for the speculative objectile and by mobilising the objectile concept through an original pataphysical encounter.

The argument presented in the following Thesis commences from a provisional treatment of pataphysical concepts introducing the notion of pataphysical equivalence discussed in relation to Deleuze's notion of difference and the identification of design problems with imaginary solutions rather than with design as science of the artificial. This is followed by a discussion on Clinamen, the Lucretian concept of a swerve in the otherwise regular fall of atoms and Syzygy a constellation or 'relation of relations', introducing these as both pataphysical concepts and as the principle motif of the thesis overall. The Thesis contextualises its motivation in the philosophical discourse on Critical Design and Design Fiction identifying primary pataphysical sources in the 'exegetical' texts on Speculative Design and the pessimistic pataphysics of Jean Baudrillard by supposing speculative design as an affirmational pataphysical mode of thought. The present Thesis is then located in formal registers of academic research found in narratives of research assessment and methodological debates on artistic and practice-based research. Limited extant contextualisation of pataphysical ideas is amplified in the following thesis to problematise epistemological and ontological registers of practice-based and artistic design research. Simply put, the concern of the following Thesis is that a Deleuzian and pataphysical stance is missing in speculative design and it becomes a mission of the thesis to address and articulate this position whilst working towards its assimilative goal. A plane of composition created from this nomadic distribution of concepts expresses the multidimensionality of interest, emphasising pataphysical and transversal connectivity and shifting philosophical

allegiances and commitments of interlocutors of speculative design before summarising the research gap identified for Design Philosophy.

The expansion of pataphysical and philosophical concepts within the following Thesis creates eleven *Syzygies* from these concepts, exploring an interdisciplinary set of 'relations of relations' of research sources in a non-linear sequence of micro-arguments. Each provide strategic micro-argument and local literature review which express coincidences and construct equivalences as preliminary to the assimilation of objectile and clinamen to pataphysics. To achieve such equivalencies the present thesis is necessarily entangled in archives of pataphysics and offers its partial account of pataphysicians involvement in cultural histories. The nomadic distribution and construction of the research plane of the argument presented provides a demonstration of the comparative philosophical analysis of speculative culture and the methodological encounter which follows: that what is at stake in its commitment to the science of imaginary solutions and pataphysical possible worlds is the 'making of additional universes supplementary to this one' (Jarry 1996:21) as immanent to the present. This is presented in an engagement with philosophical material close to, yet different from, the core argument of the present Thesis, provided in sufficient detail to clarify its claim to originality and as necessary to subsequent philosophical analysis and cultural comparison. The intention is not so much to explicate but expropriate the literature on speculative design and speculative culture whilst at the same time extricating from it certain concepts, putting these into a series of encounters preliminary to Thesis's assimilation of the speculative objectile to the pataphysical clinamen.

As swerving vectors of argumentation the sequence of *Syzygies* articulate, mutate and translate a lineage of pataphysical influence on Deleuze & Guattari's machinic politics; in Deleuze's insistence that a book of philosophy is part science fiction part detective novel; of Jarry and Science Fiction; of the New Wave of SF and the science fiction studies of cold war pataphysicians; of

Deleuzo-Guattarian pataphysical utopias; of Deleuze, cybernetics and design; of the spatiality of the pataphysical realm; and of pataphysics in postmodern architecture fiction and trans-continental science fiction. The intention of this is revisionary, seeking to provide alternative conceptual reference and exemplar for speculative design, whilst performing a comparative philosophical analysis of its core concepts by putting these into encounter with those of the science of imaginary solutions. The nomadic distribution of literature review and its integration with serial argumentation provides new research on the pataphysical machines of Michel Carrouges and their implication in Deleuze and Guattari's schizoanalysis applied to the pataphysical film with specific interest in the pataphysical time machine: the following Thesis provides new readings of the design fictional concept the diegetic prototype; of the designing of bachelor and influencing machines; and in relation to the diegesis of Souriau and the non-hylomorphic becomings of technical objects in Deleuze and Simondon's cybernetics; and of the philosophical object as prototype in the production of pataphysical subjectivities. The final movement of the sequence of Syzygies of the following thesis shifts the register to architecture fiction and pataphysical machines: to pataphysical patents; to pataphysics in the architectural humanities and introduces the notion of the technographic prototype as objectile.

In pursuit of its claim, then, the mobilisation of the objectile and clinamen concepts tests through its Syzygies a nomadic distribution of micro-arguments which probe the research plane composed: the position adopted throughout the thesis is that pataphysical machines, and the topologies and tropes of pataphysicians, might be re-positioned so as to intervene in formative imaginaries of speculative technological objects as objectile. That is to say, whilst Jarry's fin-de-siècle XIX^e 'pataphysics had continued influence after its incarnation of 1947 and the Collège de 'Pataphysique and subsequent occultation, the thesis foregrounds philosophical inclination of pataphysical influence on radical design cultures of the twentieth century and for a prospective and conjectural mode of twenty-first century design research.

The thesis concludes its assimilation of the objectile to the pataphysical clinamen to make an original contribution for the field of Design Philosophy and, simultaneously, to account for its original contribution to the field of Deleuze (& Guattari) Studies motivated to intervene in a gap in the application of Deleuzo-Guattarian concepts to speculative design research. The research plane composed also exposes a pataphysical politics of acceleration and hyperstition. This futurological orientation and political ambivalence of speculative design is argued against in the following Thesis, exposing breaks and continuities in its lineage. The expropriation of concepts performed within this Thesis, that the objectile is assimilable to a pataphysical clinamen, in mode and milieu if not necessarily in genre, provokes new philosophical allegiances for speculative design embedded in histories of pataphysicians, cybernetics and speculative cultures. Which is to say that to mobilise a speculative objectile assimilated to the pataphysical Clinamen is to offer a third position between the negative pataphysics of Baudrillard and the affirmational pataphysics of Deleuze and Guattari.

Implicated in fragmentary, mobile and horizontally distributed concepts arising out of the material, between the pataphysical theory-fictions of technical objects belonging to the science of imaginary solutions of Jean Baudrillard, as extracted from the literature on speculative design, and engagements with pataphysical machines of the philosopher Gilles Deleuze and psychoanalyst Felix Guattari, an original aesthetico-conceptual conceit is constructed: a disruptive and deliberate misreading of an unsubstantiated claim by philosopher Brian Massumi, that the objectile is assimilable to the Lucretian clinamen substitutes the Lucretian atomistic concept for the pataphysical *Clinamen*, so that it might be loosed in the field of speculative design as an objectile of a science of imaginary solutions.

The originality or novelty of contribution offered in the following pages of this submission for the award of Doctor of Philosophy is its assimilation of a

speculative objectile to the pataphysical Clinamen. This stems from the creativity of its deliberate misreading of Deleuze's use of the concept clinamen as pataphysical. In order to support the claims made, original research has been completed on the presence of pataphysical concepts, machines - and pataphysicians - in Deleuze's philosophy; in the science fictionality of the milieu within which certain of his concepts are developed, and, in the interdisciplinary cultural histories intertwining cybernetics. Cybernetics provides the technological frame for the objectile modulation of what Deleuze terms the 'dividual, and what the following thesis argues is a pataphysical mode of designing the production of subjectivities. In this the Clinamen of anti-chance in the cybernetics of Gilbert Simondon's mode of existence of technical objects and the influence of this on Deleuze's theories of ontogenetic individuation is significant to the assimilative objective of the conclusion of the following Thesis the mobilisation of its research and the application of its aesthetico-conceptual construct. Throughout, the research has been captivated by and motivated to pursue the fleeting movement of a fugitive thought: that a Deleuzian schizoanalysis of the designing of technical objects, as objectile, might be productively collided with the philosophically analytic modal logic of fictional and possible worlds of speculative design. That an objectile assimilated to a pataphysical Clinamen and the, at root, philosophically poststructural and postmodern interest of speculative culture, might be productively collided with the pataphysical fictions of design research and the ontogenesis of technological objects.

Acknowledgements

This research has been undertaken under the supervision of Barry Curtis, who has offered critical friendship, encouragement when it was most needed and has been a source of great conversation, inspiration and insight. Of the wider supervisory team, I would like to thank Joe Kerr for facilitating a smooth transfer from the London Consortium to the Royal College of Art at a time when I needed to relocate my research closer to a source of its speculation; and Monika Parrinder who helped me come to terms with the influences upon my own voice. The thesis has very much benefited from the research methods courses of both the London Consortium and the Royal College of Art including introduction to speculative design research methodologies by Anthony Dunne at the RCA.

In addition to those staff at the RCA informing the development of this thesis I am especially grateful to Noam Toran, from whom valuable insight was gained of his expositional practice working in speculative design. I have been very fortunate to have met Julian Bleecker of the Near Future Laboratory and David Kirby at the University of Manchester who have very generously provided insight on their own research in making Design Fictions and theorising the Diegetic Prototype respectively. The science fiction historian Brian Stableford has been instrumental to my understanding of fin-de-siècle fantastique and the British new wave; Alastair Brotchie has supported the more pataphysical aspects of this research in opening the archives of the London Institute of Pataphysics and I anticipate more work with the Office of Patentry. Frédéric Jaccaud, of the Maison d'Ailleurs which maintains the Pierre Versins Science Fiction Collection, was particularly supportive in my tracking down pataphysical content in Harald Szeemann's Science Fiction exhibition (1967). Jasia Reichardt has been instrumental in helping me to identify similar sources in the Gaberbocchus Press Common Room archive.

I also wish to thank the editor of *Digital Creativity*, Lone Malburg, for supporting my guest edited special editions on Design Fiction (2013) and Speculative Hardware (2016) piloting research related to this thesis; and to Jamie Brassett and Betti Marenko for including my preliminary research for this thesis in their book on *Deleuze & Design* (2015), parts of which were presented in 2013 at Deleuze Studies in Taipei; at the CAA in New York; and at Deleuze Studies in Lisbon. Futurological aspects of the thesis were developed as conference papers in 2015 at Deleuze Studies in Stockholm and for the UNESCO Anticipations conference in Trento.

I have also benefited in sharing some of these ideas with the speculative fiction novelist and futurologist Bruce Sterling and thank him for his call for contribution by media philosophers and 'speculative' philosophy to the field of 'Design Fiction' and his pithy responses to my ideas. Through a circuitous route, Sterling's responses led to a Fellowship, and friendship, with the New Centre for Research & Practice, through which I directly encountered the philosophically challenging developments in hyperstition, templexity, and accelerationism, and I very warmly thank the individuals and communities involved in those discussions. Finally, to extend deep and sincere gratitude to my family for their continuous help and support.

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PART ONE: PRELIMINARIES

1.0.0 INTRODUCTION

[A]t their most abstract, speculative designs are a form of speculative philosophy of technology that question the meaning of technology itself. (Dunne & Raby [D&R] 2013:102)

1.01 Deleuze, Pataphysics and Speculative Design

The following thesis is an investigation of the objectile and the clinamen to demonstrate how one is assimilable to the other. If, at the time of writing the thesis, the concept objectile was already lodged on the plane or strata of architectural computing, then it is a supposition of the following that the objectile might be re-mobilised for speculative design research by assimilating it to a pataphysical clinamen. Clinamen, the following research will show, serves as a prototype for the science fictional, philosophical and architectural machines to be claimed as speculative objectiles for interdisciplinary design research cultures: Clinamen exemplifies the paradigmatic pataphysical and bachelor machines of schizoanalysis and the speculative research object or objectile. Which is to say, the concept *clinamen* possesses an interdisciplinary mobility as philosophical object and as a pataphysical machine *Clinamen*, a painting machine, designed by Alfred Jarry's pataphysician Dr Faustroll, named after the Lucretian atomistic concept resurrected by Jarry for the twentieth century. The following Thesis therefore composes a research plane on which to create an encounter between philosophy, speculative culture and design research, such that pataphysical concepts can productively be put into confluence with discourse on speculative design as a mode of practice-based research, in pursuit of its principal claim: that the concept of the technical object *objectile*, created by philosopher Gilles Deleuze, can be assimilated to a pataphysical *Clinamen*.

The thesis opens by classifying technological objects from speculative design and architectural fiction as objectile; it concludes after assimilating the objectile to the pataphysical clinamen to make an original contribution for the field of Design Philosophy and, simultaneously, to account for its original contribution to the field of Deleuze (& Guattari) Studies. Throughout, the research is captivated by and motivated to pursue the capture of a swerving thought: That a Deleuzian schizoanalysis of the designing of technical object, as objectile, assimilated to a pataphysical clinamen and the, at root, philosophically poststructural and postmodern interest of speculative culture might be productively collided with the philosophically analytic modal logic of fictional and possible worlds of speculative design. Which is to say, in the terms developed by subsequent argumentation, the objectile is considered as if a pataphysical fiction of design research on the side of a 'science of imaginary solutions' against a 'science of the artificial'.

The methodological encounter constructed provides a comparative philosophical analysis in support of this assimilation of the two concepts, objectile and clinamen, in a series of micro-arguments which distribute both literature review and argumentation as a nomadic relation of relations across diverse sources. The distributed nature of engagement with sources reflects the disparate nature of the material consulted. This is composed as a series of small literature reviews provided at strategic points across the Thesis to provide local context. This is to say, that the research is a reflexive mobilisation of research and the application of its aesthetico-conceptual construct.

The limited contextualisation of pataphysical ideas by interlocutors of speculative design is amplified in the following thesis to problematise epistemological and ontological registers of practice-based and artistic design research and to suggest a pataphysical milieu for the imaginary and visionary cybernetic and cyber-physical objects of radical and speculative design: the following submission constructs and deploys an original notion of the objectile

and a pataphysical clinamen to probe the conceptual space of the field of speculative culture and to question its political and philosophical commitments. That is to say, whilst Alfred Jarry's fin-de-siècle XIX^e 'pataphysics had continued influence after its incarnation of 1947 and the Collège de 'Pataphysique and subsequent occultation, the thesis foregrounds philosophical influence on a prospective and conjectural mode of twenty-first century speculative design and architecture fiction.

A point of departure for the thesis is early mention of pataphysics, Jarry's 'science of imaginary solutions', within the exegesis¹ on practice-based design research by Anthony Dunne and Fiona Raby. Extant research dedicated to Speculative Design tends to construct an orthodox lineage based upon D&R's position, which itself excludes further mention of pataphysics. The thesis investigates the mobility of pataphysical concepts and their influence in registers of philosophy, visionary architecture and science fiction in D&R's *exegesis*. This pataphysical and philosophical encounter with speculative design intends heterodox disruption of its lineage. It is an ambition of the thesis to expropriate speculative design as pataphysical, for design philosophy by providing philosophical explication of pataphysical concepts for speculative design research in the architectural humanities and in science fiction studies. Which is to say, the thesis is grounded in the philosophical and theoretical discourse on speculative design of its key proponents, and motivated to participate in discourse on practice-based research from the fields of Design Philosophy, Deleuze & Guattari Studies, and with the interdisciplinarity of pataphysical concepts mobile between these domains.

¹ *Exegesis* in ital. refer to these source publications: Hertzian Tales: An Investigation into the Critical and aesthetic potential of the electronic product as a post-optimal object (Dunne 1997); Hertzian Tales: Electronic Products, Aesthetic Experience and Critical Design, MIT Press, 2008 (Dunne 2005 2nd ed.) the paperback version of Dunne's doctoral Thesis in general circulation; Design Noir: The Secret Life of Electronic Objects (2001), an extension of the ideas and methodologies outlined in Hertzian Tales illustrated by practice-based research of D&R in projects submitted by the RCA to RAE 2008 and Speculative Everything (2013), together with exemplar projects by alumni and contributors to the Design Interactions programme as submitted by the RCA as Research Narratives to RAE2008 and REF2014.

1.0.2 Dunne & Raby's Exegesis on Speculative Design

The *Exegesis* of D&R on their design research at the Royal College of Art, London 1996-2016, is the primary source of research interest. The locus of interest is in what Dunne referred as a pataphysical realm. This realm is considered in some detail in relation to Deleuze & Guattari's realms of the chaoids of Art, Science and Philosophy (Deleuze & Guattari 1994) by the thesis. Whilst the research described in this thesis is an outcome of doctoral studies at the RCA, and the exegesis of Dunne & Raby developed at the RCA is a central foil for the thesis, it has been conducted very much from an outsider position to those practicing within this radical pedagogical enclave. This grants the thesis its idiosyncratic freedom from the material studied. In this sense the research represents a swerve or clinamen with respect to the orthodoxies of the material in question. As will be seen from the preliminary framing of the research, pataphysical concepts provide both content, a comparative philosophical object, and an organising principle for this thesis in its recurring motif – the figure of the clinamen or swerve.

This research will not attempt to speak for Dunne or Raby,² nor to attempt a monographic representation of the studio D&R – only to speak to those pataphysical objects and philosophical concepts evident after examining their *exegesis*. This is to say, the research interest of this thesis in Dunne and Raby's *exegesis* of their practice-based design research or 'speculative' design, is in what might be gained by attending to an apparent elision of pataphysical influence in its lineage over the period of its theorisation and codification (1998-2018). The initial philosophical interest of the *exegesis* (1997) of speculative design, at first dominated by the ideas about gadgets

² The voice of D&R is an absence felt by the research as the critical turning toward their *exegesis* and exit from the RCA after 2016 has enabled an expropriating approach to their work.

and simulation of Jean Baudrillard's *The System of Objects*, is accompanied by the swerving appearance of pataphysics, defined as the science of imaginary solutions by the playwright Alfred Jarry. This appearance is only fleeting and the elision of 'pataphysics from the later *exegesis* also entails a shift away from the philosophically postmodern and poststructural sources of Hertzian Tales to the stance adopted for *Speculative Everything* (2013). This stance presents a *mélange* of analytical and modal logic, fictionalism and possible worlds; as an applied theorizing of design as a science of the artificial and support for its prototyping of future technical objects. Contrasting philosophical positions within the *exegesis* are caricatured within this thesis as a shifting of allegiances from the '*science of imaginary solutions*' to the '*science of the artificial*'. A continuity of philosophical interest in prototyping technical objects across the *exegesis* masks an ontological rift, one largely unobserved yet brimming with potential. The lacunae opened by this rift enables a comparative analysis of pataphysical influence on philosophical concepts implicated in technological objects mobilised by speculative design.

From its two caricatured positions this comparative analysis creates a third, in its encounter between speculative design, what it will term *pataphysical fictions*, and its own mobilisation of philosophical concepts. The hypothesis developed is that between the pataphysical theory-fictions of technical objects belonging to the science of imaginary solutions of Jean Baudrillard and engagements with pataphysical machines of the philosopher Gilles Deleuze and psychoanalyst Felix Guattari, that a comparative third position might be discovered in an original and idiosyncratic encounter with the technological objects of speculative design. From this third position a re-mobilisation of Deleuze's concept of the technological object as 'objectile' deployed anew: as pataphysical, dislodges it from association with computational modes of architectural design research. This is to say, if the concept objectile has become lodged on the plane or strata of the architectural, then its basis in 'third generation machines' opens it to a further mobility; an objectile of design as a science of the artificial is assimilated to pataphysical concepts to create

an objectile for the science of imaginary solutions and the possible worlds of speculative culture.

1.0.3 Speculative Objectiles

Although we will not fully confront this until the latter part of the thesis, Deleuze's conception of the technical object as objectile, is defined in Deleuze's book *The Fold* (1999a), as a demonstration of the 'very modern' modulatory capacities of the technical object:

The new status of the object no longer refers its condition to a spatial mold – in other words, to a relation of form-matter – but to a temporary modulation that implies as much the beginnings of a continuous variation of matter as a continuous development of form. (Deleuze 1999a:19)

The Fold was widely referenced in architecture and design discourse after 1993, for its invention of the modulatory relation Deleuze described between object and subject, particularly in applied readings of topological surface description and algorithmic aesthetics³. This most notably occurs in the architectural publication AD, which has fulfilled a central role in the production of the post-cybernetic architectural avant-garde⁴. Deleuzian concepts are a persistent reference after the *Folding in Architecture* (1993) issue of AD, in which the association of the concept of the fold developed by Deleuze and the objectile, a concept developed simultaneously by the architect and furniture designer Bernard Cache⁵ begins to simultaneously ossify in its long association with computational design processes in architecture. *The Fold*, ostensibly a book on Leibniz and the Baroque, for the purposes of this thesis expresses an engagement with fictional and possible worlds within the Deleuzian corpus. Furthermore, beyond specifically referencing and crediting Cache in the *Fold*, Deleuze also describes a tabular objectile in which "*the surface stops being a window on the world and now becomes an opaque grid*

³ To put algorithmic aesthetics into the context of this thesis note Neil Spiller's 'second aesthetic of the algorithm' combining cybernetic and pataphysical ideas to which I am aligned as a visiting critic at the Bartlett between 2003 and 2008.

⁴ Parnell, Steve. *Architectural Design, 1954-1972 The architectural magazine's contribution to the writing of architectural history*, unpublished PhD Thesis, University of Sheffield, 2011.

⁵ in *Earth Moves* (1993).

of information on which the ciphered line is written.^[6] The painting-window is replaced by tabulation, the grid on which lines, numbers, and changing characters are inscribed (the objectile)" 1993:27. Hence the thesis develops this talk of an objectile of combines, as an objectile in relation with the neo-avant-garde and the emergence of pop art and a science fictionality associated with communications, cybernetics and information theories. This science fictionality will be developed initially, via the pop art 'objectiles' of Eduardo Paolozzi, whose tabular images in their science fictional contexts of New Worlds and Ambit magazines are, it is claimed by this thesis, precursory to the design fictional prototype as another kind of 'objectile' a science fictional technical object.⁷

In 21st century speculative culture at one remove from speculative design and speculative fiction, philosopher Luciana Parisi observes speculative objects of research as objectile, "*bending and twisting the infinite levels of its reality beyond any ultimate point of observation.*" (Parisi 2012: 242), though not in relation to her own reflection on computational and *contagious architecture*. There is thus a productive disconnect between a speculative objectile and a computational one. Parisi describes her political project as having its origin in her work with British Philosopher Nick Land et al., in the Cybernetic Culture Research Unit (CCRU 2017) with its genesis at the time that Deleuze, Baudrillard and other continental philosophers' works were becoming widely received in english translation, making their concepts more mobile within British cybercultures and American academy.⁸ Parisi's political project, is not that of this thesis, but its political aesthetics of relations between matter and techne, and the 'divulgations' Parisi notes in reflecting on the cybercultural millennial moment are certainly a techno-philosophical motive force within this thesis:

⁶ Deleuze specifically references Leo Steinberg's "*flatbed plane of the painting.*" from *Other Criteria* Oxford UP, 1972.

⁷ see for example pop art 'objectiles' from Paolozzi Moonstrips Empire News, 1967 Paolozzi at Ambit in The Jet Age Compendium David and Paolozzi at New Worlds in Brittain, D. (2009;2013).

⁸ For discussion on continental philosophy and the American academy see Lotringer (2013). Also significant is a European and transatlantic media art/ philosophy convergence as might be represented by the Cybernetic Culture Research Unit (CCRU 2017) Virtual Futures conference (Dixon & Cassidy 2005), to which my personal involvement in minoritarian digital cultures 1996-2008, at Huddersfield's Digital Research Unit, was contiguous and revisited in 2017 as part of my fellowship with the New Centre for Research & Practice 2016-2019.

And this techno-philosophical approach was, however, an approach from within culture and the cultural politics of gender and technology, race and technology, and capital and extended proletarianization. This was a very multidisciplinary investment that we all had; we did very different research, but we all shared this kind of re-articulation of technology to think politics in a non-ideological way. And obviously fiction – fiction, the fictive ideality of hyperstition – was a method for inventing a political philosophy of another kind, and perhaps its divulgation today is something we have considerable reservation about. Parisi (2016).

1.0.4 Research Domains

The research within this thesis is located at the intersection of three domains or fields of research. Locating the research in this way expresses both its philosophical commitment and its interdisciplinarity and responds to the research material in syzygies between these three fields rather than reviewing them in isolation., but are describable as the following, for preliminary purposes: Firstly, it seeks to use certain concepts of Deleuze-Guattari otherwise missing from a narrow field of Design Philosophy interested in the temporal and political contexts of speculative design practice. Design Philosophy here refers to a field constructed by the now defunct academic journal *Design Philosophy Papers*⁹ and, more critically, to the published writing of contributing theorists and commentators developing the discourse on speculative design.¹⁰ Secondly, it has considered speculative design as a mode of the field of artistic or practice-based research. This is a field within which post-Deleuzian thought already impacts, but not in relation to the

⁹ 2013-2018 Wills & Fry eds.

¹⁰ Design Philosophy Papers was dominated by a Latourian perspective, suggesting a Deleuzian interest, however only 6% of articles published refer explicitly to Deleuze or Deleuze & Guattari, and no articles discuss the 'objectile' or pataphysics. The 6% of articles interested in speculative design and D&R, cluster around the 2013 publication of *Speculative Everything*.

pataphysical, architectural or science fiction cultural material researched by this thesis. Thirdly, it introduces a pataphysical dimension to consideration of the science fictional aspects of philosophical speculation in the field of Deleuze & Guattari Studies, this extends a personal and previous commitment to the field of Deleuze & Guattari Studies (Hales 2015) on design and artistic research & development (R&D).¹¹ Deleuze-Guattari Studies as used here refers to the conferences and Journal of the same name¹² and within which the essays by Deleuze on pataphysics and the nature of the 'science-fictionality' of his books of philosophy had only been marginally referenced at the start of this thesis.¹³

1.0.5 Towards a fully Speculative Culture

This thesis speaks to the philosophical, science fictional and architectural investment in pataphysical ideas, and the influence of those ideas on aspects of the *exegesis*. The thesis extrapolates from Dunne's citation of the concepts of Jean Baudrillard across whose corpus are multiple reference to pataphysics, and from Dunne's observations on a 'pataphysical realm' to construct a disjunctive synthesis¹⁴ of architectural and science fictions. Of specific interest to this thesis are the ways in which certain of these pataphysical ideas are coincident with a sense of science fiction - or SF - as

¹¹ The book chapter (Hales 2015) as published in the first book dedicated to Deleuze & Design (Brassett & Marenko 2015) written as part of the research for this thesis and mobilises its concepts in media art and speculative hardware practices. Parts of this book chapter are re-worked in Part Four of the thesis.

¹² Edinburgh University Press peer reviewed journal renamed from Deleuze Studies to *Deleuze & Guattari Studies* in 2018.

¹³ It is worth naming the concept *objectile* in this context. This features in one article in Deleuze Studies (Martin J-C 2009) and in three chapters of the book series *Deleuze Connections* (Buchanan, ed.) by (Savat 2009) (Frichot 2013) and (Hales 2015). Clinamen, which is a significant concept in pataphysics and central to this thesis is referred in only three (Johnson 2017) (Bennett 2013) and (Montag 2016) and none in the pataphysical cultural contexts of this thesis. In Deleuze and Lucretius Johnson (2017) has no interest in pataphysics or the objectile and does not mobilise the clinamen outside of his concern with its ancient philosophical sources.

¹⁴ What Deleuze & Guattari term a Disjunctive Synthesis (1977:1-6) is a synthesis connecting objects into series and series' to sets and to each other, into what this thesis develops as syzygies "of distributions and of co-ordinates that serve as points of reference" and a nomadic distribution of concepts/objects.

'speculative', and how this might inform a design philosophical account of a speculative mode of design research. From this the thesis constructs an expanded sense of pataphysical lineage and uses this to explore and mobilise philosophical concepts for what science fiction novelist and futurologist Bruce Sterling described, in public discussion with D&R, the movement toward '*a fully speculative culture*'.¹⁵

In summary, diverse pataphysical sources are used to create an encounter between these and [1] philosophy, [2] speculative design and what it terms *pataphysical fictions* and [3] to assimilate a concept of the technical object as objectile to a pataphysical clinamen. It introduces the term 'pataphysical fiction' to describe science- and architectural fictions related to the implication of the science of imaginary solutions in the *Exegesis* of speculative practice-based or artistic research. It also proposes as pataphysical the 'kind of science fiction' Deleuze's claims for his philosophy, so that an appropriation of Deleuzian concepts might be mobilized in the discourse on speculative design. The thesis traces, non-linearly, what it calls pataphysical fiction vacillating between two primary registers: pataphysical influences on (and in) post-cybernetic science fiction; and writing on pataphysics in the architectural humanities.

The thesis creates an encounter with pataphysical material in a series of *syzygies* and from these mobilises philosophical concepts for speculative design through which the orthodoxies of its lineaments are complexified. In pursuit of this challenge, at the same time as it applies philosophical concepts to the domain of interest, the mobilisation of these concepts tests its hypothesis: that when Deleuze suggested a book of philosophy was of necessity in part the production of a kind of science fiction Deleuze ([1968] 2004, xix) that this science-fictionality, in mode and milieu if not necessarily in genre, might be considered pataphysical. This is to say, that the research mobilizes and applies concepts created by Deleuze and Guattari in contexts

¹⁵ Icon Magazine reference web interview. Dunne et.al (2009).

that were not their own for the field of Design Philosophy and simultaneously offers an applied Deleuzian and yet pataphysical orientation for design research as it provides an account of pataphysical sources for Deleuze (& Guattari) Studies. Whilst this thesis is textually oriented, it has the practices of speculative design and the mode of its speculative fictions as *technographies* very much in mind. In bringing into confluence notions of designing and fictioning, the drawings, models and texts 'making up' fictional worlds can be treated in terms of a comparative cultural study of architecture fiction in speculative design.

1.1.0 STRUCTURE OF THE RESEARCH

Speculative Philosophy is the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted. By this notion of 'interpretation' I mean that everything of which we are conscious, as enjoyed, perceived, willed, or thought, shall have the character of a particular instance of the general scheme. Thus the philosophical scheme should be coherent, logical, and, in respect to its interpretation, applicable and adequate. Here 'applicable' means that some items of experience are thus interpretable, and 'adequate' means that there are no items incapable of such interpretation. Alfred North Whitehead, *Process and Reality* Chapter I Speculative Philosophy Section I 1961:3.

The thesis offers a mobilization of concepts for speculative design which probe its modes of technical existence. After the preliminaries of *this* part of the thesis, it is structured in three more parts, each operating at different speeds to create an encounter between speculative design, pataphysics and philosophy:

Part One: Preliminaries (the part being read, which will explain itself as its reading proceeds).

Part Two: Argument; composes the plane of the overall argument, its literature review and provides some philosophical preliminaries.

Part Three: Syzygies; provides a series of eleven rapidly moving, wildly interconnecting entry and exit vectors to reference pataphysical material arising in close readings¹⁶ of concepts within the *exegesis*.

Part Four: Clinamen & Objectile; creates and mobilises concepts following a slower development of a single pataphysical concept (Clinamen) and its assimilation of a philosophical one (Objectile).

¹⁶ in the poststructural sense developed by Mieke Bal 1999.

1.1.1 Structure of Part One: Preliminaries.

Part One discusses the composition of the research plane of this thesis, and introduces its comparative methodologies. It first provides an overview of the thesis and how it is structured as well as philosophical and methodological interest as methodologies constructed for the research. It commences with overview of the subsequent three parts before outlining the research interest, the gap in the literature, and the research questions to be given address by the thesis and some initial observations.

1.1.2 Structure of Part Two: Argument.

This part commences with a provisional treatment of pataphysical concepts locating these in cultural histories of pataphysicians and provides an account of some principles and tropes of pataphysics for the methodological and philosophical challenges these introduce to the three fields of research interest. Part Two provides an initial encounter through the notion of pataphysical equivalence and discussion of this in relation to Deleuze's notion of difference and the identification of design problems and imaginary solutions. This is followed by a discussion on Clinamen, the Lucretian concept of a swerve in the otherwise regular fall of atoms and Syzygy a constellation or 'relation of relations', introducing these as both pataphysical concepts and as the principle motif of the thesis overall. Part Two embeds its literature review in the philosophical discourse on Critical Design and Design Fiction identifying primary sources in the 'exegetical' texts on Speculative Design. Following this, a review of Speculative Design and Design Research notes 'the speculative' as a mode of thought of British philosopher Alfred North Whitehead which veers into design research (March, L.J. 1976) in architecture in the wake of the republication of Whitehead's *Process and Reality*. The thesis then locates speculative design in formal registers of academic research, in exegetical narratives of research assessment and methodological debates on artistic and practice-based research. This preliminary research

constructs a plane or field of interest, scoping the *Exegesis* of D&R with the speculative design of related academic research submitted to Research Assessment Exercise (2008) and Research Excellence Framework (2014). The plane of composition created from this nomadic distribution of concepts expresses the multidimensionality of interest, emphasising pataphysical and transversal connectivity.

The next stage of the literature and contextual review of part two of the thesis charts the shifting philosophical allegiances of D&R as well as reviewing philosophical commitments of interlocutors of speculative design. The last third of Part Two summarises the research gap identified as a concern for Design Philosophy. Simply put, this concern is that a Deleuzian stance is missing in speculative design and it becomes a mission of the thesis to address and articulate this position. A summary of the research hypothesis and research questions posed, together with discussion on methodologies, gives address to the philosophical source of the methods deployed by the thesis. The nomadic distribution and the construction of the research plane of the preceding argument provides a demonstration of the comparative philosophical analysis of speculative culture and the methodological encounter to follow presenting its argument: that what is at stake in its commitment to the science of imaginary solutions is the 'making of additional universes supplementary to this one' (Jarry 1996:21) as immanent to the present. A comparative account of interest in possible worlds then concludes Part Two by discussing some implications of applying such philosophical concepts for Speculative Design. This is presented in engagement with philosophical material close to, yet different from, the core argument of the thesis, provided in sufficient detail to clarify its claim to originality and as necessary to subsequent philosophical analysis and cultural comparison.

1.1.3 Structure of Part Three: Syzygies.

Part Three of the thesis expands pataphysical and philosophical concepts and depends on eleven *Syzygies* of pataphysical concepts, exploring an interdisciplinary set of 'relations of relations' concerned with these pataphysical sources, in encounter with speculative design research. The intention is to not so much to explicate but expropriate the *exegesis* whilst at the same time extricating certain concepts putting these into a series of encounters. As swerving vectors of influence these articulate, mutate and translate a lineage of pataphysical influence on Cold War cybernetics, and the "*last gasp of modernism*"¹⁷ in postmodern architecture fiction and trans-continental science fiction. The intention of this is revisionary, seeking to provide alternative conceptual reference and exemplar for speculative design, whilst performing a comparative philosophical analysis of its core concepts by putting these into encounter with those of the science of imaginary solutions.

The structure of part three is a series of syzygies, essays of short and medium length, which establish a constellation or a series of sets of 'relations of relations'. These differentiate a nomadic distribution of sources and events to provide the encounter of this research with its cultural material. The research considers a speculative investment in science and architectural fiction through the concepts of pataphysics to offer new insight on implications for D&R's post-critical turn to constructed realities as possible worlds. It uses this insight to confront a seeming commitment of these possible worlds to the political outer edges of the free-market. Implicit within this turn in D&R's work is a transition from a philosophically inflected *system of objects* – and a sense of the *technical object* that might be expressed as pataphysical (Baudrillard 1996, Dunne 1997) – to a second position, some 15 years after the first, aligned with analytical philosophy and the modal logic of possible worlds.

¹⁷ Moorcock cited in Huston, C. 2013:11.

Dunne & Raby's *Exegesis* is mosaic in format and therefore the eleven syzygies of the present thesis do not seek to follow it structurally nor to contend with each of its thematic interests or rehearse its overall argument. Instead the syzygies cut across the *exegesis* transversally following the tropes of pataphysical concepts and traces of pataphysical objects - and pataphysicians - within it. More explicitly, syzygies extract and foreground pataphysical concepts through two primary vectors: architectural fiction and science fiction. These vectors provide points of continuity between the plane of research composed and the influence of pataphysics and pataphysicians in the architectural humanities, in science fiction and speculative cultures in design research.

1.1.4 Structure of Part Four: Clinamen & Objectile

Central to the methodological interest of this research is the staging of pataphysical encounters out of certain convergences between science fictions, architectural fictions and philosophical or philo/theory-fictional objects. Of these, the relation between pataphysics and the clinamen is fundamental to an original analysis of pataphysics in the philosophy of Gilles Deleuze conducted by the thesis. This concludes with a novel 'proof' of Brian Massumi's unsubstantiated supposition, reconsidered and substantiated by the arguments of the thesis, that Deleuze's concept of the technical object as objectile is assimilable to the Lucretian concept of the clinamen,¹⁸ a swerve in the otherwise regular fall of atoms. An aesthetico-conceptual conceit, a deliberate misreading¹⁹ of this clinamen as pataphysical, is used to create a pataphysical objectile and to re-mobilise this concept, one lodged on the strata of an architectural science of the artificial and let it loose in the field of speculative design as an objectile of a science of imaginary solutions. This concluding remobilisation involves a final philosophical comparison of the pataphysical position between Baudrillard and Deleuze in pursuit of the

¹⁸ Massumi 2002:179-80. n. 13.

¹⁹ the deliberate misreading of this thesis is methodologically Deleuzian and pataphysical.

political futures suggested by the Marxist theorist and activist Franco 'Bifo' Berardi and towards an expression of speculative design for those whom Deleuze termed 'a people to come'.

if I look at the present I think that Baudrillard's work is much more contemporary than that of Deleuze and Guattari. [...] But that machine was 40 years ago, it was mapping the future that we are now living in, so if you want to look at the present from the point of view of the present, Baudrillard is much more useful. ²⁰

Berardi's intuition that a comparative philosophical analysis would produce a 'third' position between the Deleuzo-Guattarian and Baudrillardian, one which might productively escape the impasse of the cultural condition of 'lost futures', a contemporary milieu seeking its 'futurability' and problematise #accelerationist positions operative in speculative culture.²¹ For the purposes of the thesis this 'third position' is hypothesised as productive both of an account of speculative design's ambiguity with respect its ambivalently accelerationist position, and as being a product of Berardi's own methodology.²² The concluding comparative analysis of the thesis is dependent upon establishing as pataphysical, a milieu and mode of science fictionality for Deleuze's philosophy of the technical object and that this is inherent to Deleuze & Guattari as source of accelerationist political thought:

Which is the revolutionary path? ... To withdraw from the world market? ... Or might it be to go in the opposite direction? To go still further, that is, in the movement of the market? ... Not to withdraw from the process, but to go further, to 'accelerate the process.' ²³

²⁰ Berardi (2016).

²¹ Mackay and Avanessian (2014).

²² Which will be found to be pataphysical.

²³ D&G Anti-Oedipus[fr.1972] 2000:239 and as cited by Noys in Malign Velocities as a source of the political philosophical notion of accelerationism. Accelerationism has a surprising interaction with speculative design in Nick Land's *cyberspace anarchitecture as jungle war* his contribution to Spiller's *Architects in Cyberspace (1995)* alongside D&R's Fields and Thresholds.

1.2.0 RESEARCH INTEREST AND CONSTRUCTION OF THE HYPOTHESIS

1.21 Constructing the Hypothesis

In the beginnings of this research on speculative design in 2013, it could be sensed from the material, that pataphysical machines and the topologies and tropes of pataphysicians, were somehow significant. Pataphysical ideas had presence in the formative imaginaries of technological objects of the *exegesis* on critical design and available to speculative designers, but largely absent from subsequent discourse. This suggested that pataphysics might be productively put into confluence with the later *exegesis* and discourse on speculative design as a mode of the science fictionality of practice-based research. Throughout, this research it has been captivated by and attempted to capture a swerving thought: that the pataphysical and at root poststructural and postmodern interest of Dunne in devices and what he terms *real-fictions* (1997:74-85) and *physical fictions* (2013:89) might be productively collided with the philosophically analytic modal logic of fictional and possible worlds of the later *Exegesis* of D&R. Furthermore, interest in the *Exegesis* of D&R's practice stems from a disciplinary inclination to architecture and the syzygy of an architectural and science fictional relation – with pataphysics and the pataphysical sources of the *exegesis* of speculative design.

1.2.2 Design Research – Deleuzian research and the research gap

The research gap identified on the pataphysical aspects of speculative design is subsumed within another: that the influence of Deleuze and Guattari on the long discourse on practice-based design research and artistic research methodologies has been given little attention in the extant published material on speculative design. Whereas Deleuzian philosophical concepts had been taken up in architectural discourses of 'folding' and in deleuzo-guattarian 'californian ideologies' of digital media since the early 1990s particularly after

the US academic adoption of continental philosophy (Lotringer 2013) and its intersection with European fin-de-millennium media art. The renewed interest in a Deleuze & Guattari motivated accelerationism and political and cultural responses, including that of Franco Berardi and Mark Fisher, seem to hold critical potential for the discourse on speculative design as a mode of practice-based design research. The call and response for chapter proposals (Marenko 2013) to the edited book *Deleuze and Design* (Brassett & Marenko 2015), presented an opportunity to partially address the peculiarity of this absence of engagement in the discipline of design.²⁴ The gap articulated here, in as much as it could be characterized or given a preliminary account midway through writing this thesis, was given some address in contributing a chapter the *Deleuze and Design* book (Hales 2015) developed out of this PhD.²⁵ It is the swerving avoidance of the issue of speculative design and architecture fiction in that book chapter, that this thesis gives its further and fullest address. The pataphysical encounter created, and the aesthetico-conceptual objectile constructed for Part Four, enables a tactical unpacking of the substance of the preliminary development of this earlier book chapter. The thesis involves both more transversal connectivity, and more varied speeds and depths, in a continued redesigning of the objectile to make of this concept objectile a design fiction for the field of Deleuze Studies and Design Philosophy by assimilating it to the pataphysical Clinamen.

²⁴ I do not claim there to have been no interchange between architecture and design during this period – to the contrary, the inclusion of D&R's *Boundaries and Thresholds* in the AD Architects in Cyberspace captures this coexistence and the contradictory convergence of electronic and material cultures well.

²⁵ This chapter dealt indirectly and obliquely with speculative design and design fiction by developing an argument for the redesign of the deleuzian 'objectile' for speculative hardware, explicitly swerving around engagement with speculative design which was deferred for development within the thesis itself.

1.2.3 Research Questions

Is the Deleuzian Objectile assimilable to the pataphysical clinamen? If so, can it be remobilized for Design Philosophy and for a speculative and fictional mode of Practice-Based Design Research? This guiding question contains a folding of the following questions to which this research gives its fullest address:

Can an encounter between pataphysics science fiction and design create *new concepts* out of a comparative philosophy discoverable in the exegesis of speculative design. Could a philosophically inflected *system of objects (Baudrillard)* bear comparison with the *technical object* as objectile (Deleuze) if this is mobilised in design fictional and possible worlds?

Was the science fictional milieu of Deleuze's philosophy pataphysical? and if so, what does this do if its concepts are applied to the plane of composition of artistic research and speculative design?

Do the pataphysical influences of the exegesis of Speculative Design extend to its interest in architecture and science fiction?

If, as Franco Berardi has suggested a way out of the cultural impasse 'after the future' is to be constructed between Baudrillard & Deleuze does a pataphysical science fiction offer a comparative third position between these two philosophers and what does this do to relations between speculative design and Deleuze-Guattarian sources in accelerationist philosophy?

1.3.0 THE METHODOLOGIES CONSTRUCTED FOR THIS THESIS

1.3.1 Composition of the Research Plane

Central to the methodologies of the present Thesis are lines of influence of the pataphysical as it swerves into and veers away from the registers of speculative culture. The methodological intention is construct and then probe, a nomadic distribution composed on the plane of design research. This creates an anti-canon of the technical object for speculative design and charts its vectors through different cultural registers. The plane composed by this research as its field of interest, is also tested with the 'discovery' of pataphysical objects (machines) distributed across the surface of this plane or field and put into encounter with other objects and events and the creation of its own aesthetico-conceptual object, a version of Deleuze's objectile assimilated to a pataphysical clinamen. The machines and objects of pataphysicians are to be discovered in the encounter of this nomadic distribution of pataphysics and a series of syzygies of speculative design with philosophy, science fiction and architecture. In parallel to the present thesis, but in media theoretical terms, similar territory has been explored by the author which can be seen to perform and actualise the pataphysical hypothesis of this thesis for media studies. This is to say, the special issues on Design Fictions (Hales 2013) and Speculative Hardware (2016), for Digital Creativity journal are performative interventions on the plane or strata²⁶ of speculative design culture, and locate and amplify pataphysical ideas lodged on the strata of architectural discourse for the further design philosophical consideration of speculative design and the application of its aesthetico-conceptual object to the field of design research undertaken within this thesis.²⁷

²⁶ I use the terms plane and strata here in their Deleuzian sense. I develop the relation between speculative design and art's plane of composition, and the architectural strata on which certain concepts of Deleuze's creation have become lodged, displacing these across the thesis.

²⁷ These are not submitted as a part of the thesis, but used as external reference.

1.3.2 Speculative Technical Objects

The thesis argues that speculative design enlists the ontological power of fictional worlds practiced as a mode of design research. Speculative technical objects and speculative design are considered as a problem of the formation of hybrid socio-technical assemblages. Accounts of research as assemblage tend to rely upon the theoretical development of Bruno Latour's Actor Network Theory and variants arising in Science and Technology Studies, whilst this thesis will depend upon the concept assemblage as developed by Deleuze and Guattari. Their notion of assemblage remains fluid but was given considerable consideration whilst this thesis has been in development by Thomas Nail (2017). Nail has carefully unpicked the definitional difficulties and what he says is the need to dissociate the English *reading* from understanding the English *word* 'assemblage' to the concept of 'agencement', the term used by Deleuze & Guattari, and translated to 'assemblage' in the absence of straightforward equivalences. The distinction Nail makes is of the assembly of things or parts into unities of intrinsic relations. That is, as necessarily distinct from an arrangement of distributed and heterogeneous elements defined by extrinsic relations. Such relations lead Deleuze & Guattari, to propose that assemblages are machines. Deleuzo-Guattarian machines compose and mix, cut, block and channel multiplicities through external relations, and these external relations, in this dissertation of influence and affinity, are what Deleuze terms 'singularities'. We will treat the possible and fictional worlds of speculative design as assemblages in this thesis - *assemblages which can be added to, subtracted from and recombined into refreshed arrangement ad infinitum*.²⁸ The paradox of setting out an assemblage of possible worlds with the visionary mode of design and with the concepts of the fold and the monad is one of an impossibility between worlds and the problem of access or passage. I take up these themes in Deleuzian terms of a comparative

²⁸ Nail, Thomas (2017: 22-23). Nail also notes the paradox that Deleuze & Guattari call this a 'fragmentary whole' in *What is Philosophy* (1994:16).

philosophy encounter subsequently, and this will depend upon certain conceptual amplification.

1.3.3 A Pataphysical Amplification of Architectural and Science Fictions

First reference to pataphysics in the *Exegesis* takes the form of a quotation by Jean Baudrillard (Dunne 1997:12). However, the pataphysical source that this quotation contains (Baudrillard 1996) goes unremarked. This seems to be without consequence to Hertzian Tales' argument and is lost amongst Dunne's mosaic²⁹ of references. This reference is, however, significant to this thesis, as the citation to Baudrillard in Hertzian Tales refers to "a science of imaginary *technical* solutions". This reference contains another, albeit in a modified form: Baudrillard's source is a misreading of a definition of pataphysics provided by Alfred Jarry:

[L]a pataphysique sera surtout la science du particulier[...] Elle étudiera les lois qui régissent les exceptions, et expliquera l'univers supplémentaire à celui-ci; ou moins ambitieusement décrira un univers que l'on peut voir et que peut-être l'on doit voir à la place du traditionnel [...]

Définition: *La pataphysique est la science des solutions imaginaires, qui accorde symboliquement aux linéaments les propriétés ses objets décrits par leur virtualité.*³⁰

[(P)ataphysics will be, above all, the science of the particular [...] It will investigate the laws governing exceptions, and it will explain the universe supplementary to this one; or, less ambitiously, will describe a

²⁹ the term is McLuhan's who is cited by Dunne (1997:29), not in relation to the mosaic methodology, but to the counterblast.

³⁰ Jarry, Alfred. *Gestes et opinions du docteur Faustroll, pataphysicien, roman néo scientifique. Oeuvres complètes*, t. I, textes établis, présentés et annotés par Michel Arrivé. Paris: Gallimard, Bibliothèque de la Pléiade, 1972.

universe which can be—and that perhaps should be— envisaged in place of the traditional one [...]

Definition: Pataphysics is the science of imaginary solutions, which symbolically attributes to their lineaments the properties of objects described by their virtuality.³¹

The presence of pataphysical ideas in the exegesis of speculative design is amplified in this thesis. The amplification employed in seeking to problematise speculative design, in a context of the epistemological and ontological registers of practice-based and artistic design research, seeks to probe it as a conceptual space and entails the troubling³² of its political and philosophical commitments. It is suggested by Breton (2001) that Dali's paranoiac-critical method is informed by pataphysics. It is the case, then, that a "fundamental crisis of the object" as well as the amplification and magnification of perspective Jarry occasionally employs also supports a means of perceiving a pataphysical reality. The thesis's transversal connecting of the objects of speculative design, is comparable to what Jarry terms the lineaments of their virtuality, (*Faustroll: 22*) discussing these as the architectural and science fictions (pataphysical fictions) of the plane of its composition.

1.3.4 Comparative Philosophy

The comparative philosophical interest of this thesis in Baudrillard and Deleuze can be located amongst the various philosophical positions adopted by the differing 'strands' of speculative design only inasmuch that these can be said to have coalesced around particular philosophical positions.

³¹ Jarry, Alfred. Definition of 'Pataphysics, from *Exploits and Opinions of Doctor Faustroll, Pataphysician*, chap. 8, in *Evergreen Review Reader 1957-1967: A Ten-Year Anthology* (New York: Grove Press, 1968), pp. 310-311.

³² In the sense developed by Donna Haraway (2016).

Methodologically, this thesis performs a *philosophical comparison* in that it constructs a third phylogenetic position of two identified lines. Robert Smid (2009) in *Methodologies of Comparative Philosophy: The Pragmatist and Process Traditions* describes how this was forged out of the rise of analytic philosophy and the Coldwar and in their chapter for this volume, David Hall and Roger Ames describe *Comparative Philosophy as the Philosophy of Culture*. Although Smid et al., did not have the cultures of coldwar pataphysics in mind, in other respects Smid's book and the chapters it contains provides a useful source, for it contains wider discussion to that staged, in part, by this thesis in its encounter between analytical and process philosophical traditions and between modes and genres of speculative design. The comparative approach of this thesis studiously avoids rehearsing a known antagonism between the positions of Baudrillard and Deleuze regarding simulacra (Massumi 1987) by diverting this argument to the related concept of the clinamen which is considered in some (and pataphysical) detail in Part Four of the thesis. Comparative analyses of the pataphysics of the Baudrillardian 'gadget' and the deleuzo-guattarian 'machine' and Deleuzian and Lewisian Possible Worlds are undertaken as philosophical preliminaries to the thesis in order that a virtual or third position between Deleuze-Guattari and Baudrillard might be constructed as a pataphysical clinamen.

1.3.5 Comparative Philosophy and Pataphysical Machines

Comparative Philosophy takes two philosophical positions and creates a third or virtual position between the two. The thesis constructs an encounter between pataphysics and speculative culture to perform this comparison and in doing so notes that there is a tensile politico-philosophical difference between the thought of Baudrillard and Deleuze.³³ Sylvère Lotringer, editor of

³³ It has been something of a custom in Deleuze studies to contrast the Deleuzian and Baudrillardian simulacra the paradigmatic case example is Massumi (1987:90-97).

Semiotext(e) and the Foreign Agents series of pamphlets³⁴ observes this tensile relation between these two philosophers. *“Deleuze and Guattari”*, Lotringer says, *“despised Baudrillard’s ideas for demobilising people, turning them away from political action.”* There are, however, ways that the syzygy of ‘relation of relations’ between Deleuze and Baudrillard can be more productively articulated by exploring what appears to be a third position – or by creating a third position between them and then considering the implication of this for the distribution of ideas and contexts of speculative design. This research suggests that one such third position exists in the imaginary science of pataphysics. A science of the pataphysical machine that the two philosophers share an interest in and from which interest different vectors might be mobilised.

Dunne’s citation of what Baudrillard describes as a science of imaginary technical solutions, is an unrecognized adaptation of one of the most accepted definitions of pataphysics. Researching other pataphysical sources for speculative design is a primary task this thesis assigns to itself. The conception of the technical object that is mobilized for the conclusion of the Thesis also stems from comparative philosophical analysis of the speculative and critical design fiction of D&R’s Baudrillardian influence, an influence further benefiting from a commitment to pataphysics as science fiction considered from a position informed by concepts arising out of the thought of Deleuze-Guattari.

The philosophical foundations of speculative design, surprisingly, do not square well with the broadly Deleuzian or performative turn which has

³⁴ Lotringer, through these publications was structural to the transmission of continental philosophy in America and the UK. see also *French Theory in America* (2013) Sylvère Lotringer, Sande Cohen, Routledge.

occurred in practice-based research as personally encountered.³⁵ A preliminary observation, before undertaking the comparative work more fully, can recognize the impact of Baudrillard on the related field of design criticism, one which in the mind of one researcher complicates the reception of speculative design by treating it in terms of contemporary designart. Alex Coles, who conceived of the notion designart (2007) has attempted some reconciliation of designart and design fiction in EP2 (2017)³⁶. The research contained within this thesis, however, traces an alternate vector and what it terms *pataphysical fiction* through two cultural registers: science fiction and architecture fiction. Inasmuch that these might be said to map onto the production of the poststructural and postmodern philosophy of Jean Baudrillard and Gilles Deleuze and might be said to provide a science-fictional milieu³⁷ within which concepts deployed in Baudrillard's System of Objects and Deleuze's Difference & Repetition were gestating.³⁸ Literary theorist Istvan Csicsery-Ronay introduces what he terms the science-fictionalization of theory (1991:389) and in doing so cites Baudrillard's observation of '*the collapse of the distance between the real and the imaginary squeezes out utopian and science fiction*' and goes some way to explain D&R's position with respect to SF. Csicsery-Ronay, in fact proposes that SF marks the point at which the real and imaginary are (as yet) indistinguishable. This mode of SF is articulated in the design fictional proposition that 'almost anything may be technically constructible' this is to say, constructible under a pataphysical science of imaginary technical solutions. Douglas Kellner also observes this trade between Baudrillard and cyberpunk which is implicated in this thesis and its consideration of the design fictions of the science fiction writer Bruce Sterling:³⁹

³⁵ since 1998 under R&D grants of Arts Council England and concluding in 2006-2008 as co-investigator on the AHRC/EPSRC designing for the 21st Century programme [Co-Investigator to the University of Leeds led project Emergent Objects].

³⁶ The inclusion of Flusser's *On Fiction* in the research for EP2 was initiated by my own research whilst at the University of Huddersfield.

³⁷ The notion of milieu in relation to the field of design is developed by John O'Reilly in Brassett and Marenko (2015).

³⁸ Each of these were first published in 1968 in their original French editions.

³⁹ for related discussion on Sterling and Design Fiction see Hales (2013).

There are also philosophical affinities between Baudrillard and Cyberpunk: like Baudrillard, cyberpunk problematizes the notion of the subject; concepts of reality and time and space are called into question with notions of cyberspace; implosion between individuals and technology subvert the concept of human being; and the erosion of traditional values raises questions concerning which values deserve to survive and what new values and politics could help produce a better future (Kellner 1995 :304).

Csicsery-Ronay praises Baudrillard as “a virtuoso stylist of theory-SF, one of the few (perhaps with Deleuze-Guattari) recent theorists who have attempted to formulate a global theory in what is essentially a lyrical mode” (1991). It is worth noting at this point, that whilst there is some interest in the reception of Deleuze, and especially Baudrillard for his theory-fictions, as science fiction – and notably as cyberpunk – that this is not a necessary part of the analysis of this thesis. It was, though, a part of a personal first encounter with Deleuzian futures. This is to say that the development of the ideas within this thesis might be said to be an autobiographical response to a personal encounter within a science fiction/theory-fictional milieu under its most Deleuzian guise and the writings of British style culture.⁴⁰ It is an assumption of this thesis that the set of conditions within which a critical, speculative and fictioning⁴¹

⁴⁰ it is only worth noting, rather than developing, this cultural dimension in the writing of Steve Beard's 80s sf-theory style culture writing for *i-D*, and *The Face* collected as *Aftershocks* (2002) and especially for how this intersects with the writings of the mid 1990s of the cybernetic culture research unit (2018); Kodwo Eschun (1998); with the writings of Mark Fisher (2018), 'hyperstition', and its troubling re-entry into international and transatlantic politics. I am grateful for the opportunity to encounter British Philosopher Nick Land at the New Centre for Research & Practice, participating in Land's controversial seminar *Philosophy of Accelerationism*.

⁴¹ Simon O'Sullivan's fictioning of artistic subjectivities in his *Plastique Fantastique* parallel the development of the argument of this thesis and an uncompleted practice-based collaboration with former NCRP organiser Tony Yannick for the somewhat hyperstitional *Dark Glamor: Accelerationism and the Occult* and my related interest in the *Cult of RAMM:ΣLL:ZΣΣ and a fictioning of them as a cargo cult of the objectile for Jeff Noon's Vurt*. (Ravendesk Games 2018).

expression of design manifests, is borne out of an ongoing post-cyberpunk production of subjectivities.

1.3.6 Definitional and methodological problems

Andrew Hugill's noting of Baudrillard and Deleuze's interest in pataphysics, in *Pataphysics: A Useless Guide (2012)*, is typical of the cultural attention given to what this research treats in more depth. Perhaps the non-pataphysical ways of the Deleuzian encounter have served as a barrier to entry to a fuller encounter by pataphysicians. Likewise, perhaps the obfuscatory resistance to definition or the commitment to inutilitous research of pataphysicians has been a barrier to the scholarship on implications for Deleuzian concepts. With respect to the pataphysical source material, the thesis does not do the same work as scholarly editions on Jarry (Brotchie 1995; 2015) or as introducing pataphysics to a generalist audience (Hugill 2012) or the broader scholarship on Jarry's poetics undertaken by Bök (2000), Fell (2005, 2010), Fisher (2000) and Klieger-Stillman (1983). Furthermore, whilst this research has been deeply immersed in pataphysics it makes no claim to be pataphysical in its scholarship.⁴² Instead, it selects from pataphysical manifestations, only in as much as these events provide a line of veering influence and contribute the influence of a clinamen of pataphysical concepts for speculative design.

Hugill observes that whilst serious research must consider a definition of its terms, to commence a programme of research involving pataphysics faces immediate difficulties (2012). In part, the definitional difficulty in this thesis is due to the pataphysical equivalence between things, and due to the pataphysical license to undertake inutilitous research. Whilst the thesis does not depend upon categorical definitions or provide taxonomies of speculative

⁴² Other than in its deliberate misreading of the objectile concept as assimilated to the pataphysical clinamen.

design,⁴³ there is a definitional problem which must be addressed before progressing further as this will also enable comment on the idea of pataphysical research methods. This is to say, the pataphysician commits to undertake *useless* research. The approach to method within the thesis is not intended to be inutilitous in this way, as the present research is to be mobilised, its concepts applied to probe a plane composed of speculative design research which is constructed out of a nomadic distribution of its pataphysical syzygies.

There remains a certain definitional difficulty though – a combination of a resistance to taxonomy and promiscuity of definitions for pataphysics. Consequently, I will choose to follow the suggestion of Hugin⁴⁴ and to work principally with those definitions offered by Roger Shattuck and those of the playwright and novelist Jarry and his disciples.⁴⁵ A text, summarising the archive of Shattuck's ephemera of the Collège de 'Pataphysics of which he was a member, offers the following description:

*'Pataphysique (English: 'Pataphysics), a term coined by French writer Alfred Jarry, is a philosophy or pseudo-philosophy dedicated to studying that which lies beyond the realm of metaphysics. It is a parody of modern scientific theory and methodology and is often expressed using nonsensical language. The Collège de 'pataphysique, founded on May 11, 1948 in Paris, consists of artists and writers interested in the philosophy of 'pataphysics.'*⁴⁶

⁴³ there are of course technical terms which will require explanation and definition to facilitate the appropriation and deployment of concepts, but the top down definitional use of dictionaries and taxonomic classification goes against the grain of the Deleuzian motivation of the Thesis. The provisional taxonomy of design fictions in my editorial introduction to the special issue of Digital Creativity journal, through their temporalities remains just that, provisional and necessarily incomplete.

⁴⁴ Pataphysics A Useless Guide 2012.

⁴⁵ Shattuck 1955/1968 I borrow the term 'disciples' from Harold Bloom who uses this to describe members of the Collège de 'Pataphysique. I note Bloom's interest in Pataphysics and the significant concept of the Clinamen in Part Four.

⁴⁶ Shattuck (n.d) Ephemera.

Shattuck (1955[1968]) suggests Jarry a proto-modernist writer, whilst Stableford (1995) locates Jarry and pataphysics into the histories of Science Fiction. The Surrealist Andre Breton, includes Jarry amongst writers of 'black humour' and it is this ironic mode, as well as its signature principle of 'equivalence', which provides the pataphysical combinatorial model for experimental literature, and as suggested in this thesis, for architects and designers as well as a speculative political mode for activists, artists and philosophers.

Breton's inclusion of Jarry in *Black Humour*, and in his essay on Jarry in *The Lost Steps*, Breton quotes Jarry on 'error' which might also illustrate the anticipatory sense of a (cybernetic) scientific error we will discover in this thesis. Breton notes that Jarry had written:

...the sensory organs being a cause of error [which] the scientific instrument simply magnifies". That is to say, through another sense-instrument, amplifies that sense in the direction of its error.⁴⁷

Error, is indeed central to the pataphysical method, a requirement of its suspension of disbelief. From which it follows that pataphysics is a belief in error as if the very basis of interdisciplinary research. That Breton mentions this in *Anthology of Black Humour* has resonance with D&R's choice of the similarly dark *Black Mirror* (Brooker 2011-) and references to P.K. Dick's science fictions which are darkly comic and the ironic mode discernible in speculative design. Breton's essay in *La Clé des champs/ Free Rein*⁴⁸ (1955/1995) *Alfred Jarry as Precursor and Initiator*, Breton writes that Jarry's pataphysics "*points the way to the paranoiac-critical method outlined by Ernst and systematised by Dali.*" (Breton, 1995:250) but this essay has another pataphysical dimension: it anticipates the title of Deleuze's essay *An*

⁴⁷ Breton, André. *The Lost Steps*. U of Nebraska Press, 1996:27-39.

⁴⁸ Breton, André. *Free Rein*, U of Nebraska Press, 1995:247-256.

Unrecognized Precursor to Heidegger: Alfred Jarry (Critical & Clinical 1998:91-98).

1.3.7 Nomadic Distribution and multi-method research strategies

This thesis identifies certain pataphysical traits it discovers in the exegetical texts on speculative practice-based design research, it amplifies and follows these into disparate source materials. From these it constructs a nomadic distribution to offer a counter-history of speculative design for design philosophy and the field of Deleuze Studies. It offers a map of the cultural field⁴⁹ of speculative design through a selective and sustained interrogation of Dunne's 1997 Doctoral Thesis out of which this thesis constructs its own nomadic distribution of pataphysical, philosophical, science fictional and architecture fictional reference. From these it develops a comparative analysis of philosophical concepts mobilised amplifying the pataphysical dimensions of these.

In pursuit of its object the thesis brings together material from disparate archival sources necessary to its charting of the transmission of pataphysical ideas. It relates, as it does so, a nomadic distribution of coincidences, vectors and nodes, *clinamen*, of fin-de-siècle and fin-de-millennial⁵⁰ pataphysical encounters. The notion of a nomadic distribution is appropriated from

⁴⁹ I use the term field as in field of practice understood as developed by Bourdieu 1993.

⁵⁰ For consideration of a more general phenomena and interest in fin-de-siècle modernities arising at the close of the 20th century see for e.g. Grace Brockington (2011). For how this is possessed of relations along the design – fiction axis of a broader interest outside of the narrower pataphysical bounds of this thesis – of the ways in which the city entered the literary imagination of the long 19th century as inverted in 21st architecture fictions, speculative design, and design fiction – see the literature on the city and the birth of the novel. For example, Westphal (2015); Tally (2014); Alter (2005); Watt (1987).

Difference & Repetition (2004:48-51) and mobilised in the construction of the multi-method strategy of the thesis's methodologies. These involve a thickening and intensification of a plane of composition arising from the research. An earlier distribution, provisional and incomplete as it was necessary for this to be involved, amongst its other motivations, taking up a call from Bruce Sterling for engagement in speculative design by speculative philosophers. An early presentation of a visual summary of the field of research attempted a flattening of Sterling's ontology of Design Fiction as described in his 'slider-bar' of disbelief. (Sterling (2013b).

The essay form of the thesis's diagramming of speculative design, which is to say the nomadic distribution of syzygies in its second part, describes a diffuse and extensive, mobile and temporally fragmented plane. On this plane of composition, a diagrammatic field of Speculative Culture is established as the basis for the encounter staged. Bruce Sterling, in conversation with Dunne & Raby for *Icon Magazine* suggested that "*design fiction was part of a movement toward a fully speculative culture*". Sterling's notion is tantalising but undeveloped by the participants, yet seems to suggest design fiction as participating in, or channelling, something that Deleuze and Guattari describe as a milieu. The science fictional aspects of the milieu of speculative culture, extends from that within which Deleuze & Guattari's writings are developed, to one within which speculative design and its fictions and becomings of technical objects are made up and became significant to the ways in which the research designed its intended contribution to the field of Deleuze Studies.

1.3.8 Pataphysical Encounter as comparative philosophical method

The methodological approach of the thesis is to multiply collide, which is to say, to force an *encounter* between a pataphysical mode of the science fictional in the methodologies of speculative design, and a pataphysical mode of the science fictional methodologies Deleuze employs in making the machinic objects of his process-materialist philosophy. The encounter staged

is between a set of Deleuzian concepts (and what becomes of a post-deleuzian sense of the science fictional) and a set of design research practices that are themselves an expression of the speculative and of the fictional becoming real. This is to say, the encounter created is with practices led by research in which there is a tendency toward, or which provide the fullest expression of the fabulation of concepts and of worlds 'for a people to come'. Furthermore, this is to be an encounter with the invention of worlds and 'non-standard' scenarios where the complicity of design in the becoming of fictional objects carries with it an attendant production of science fictional subjectivities. What is expressed in this set of design research practices is a sense that to be 'designing things' is to be 'making things up' that to design speculatively is to accelerate both culture and capital through fictions which become real – to take things even further as Deleuze and Guattari put things in *Anti-Oedipus* (1977:239-40). For example, through 'useful fictions' of circumstance, site, history, desire and function; as fictions of the future and 'the fabrication of evidence'. This is what Deleuze referred to as the powers of the false, fictions of what he would call the evidence of the 'now' and the 'here' as well as fictions of Samuel Butler's *Erewhon* are the set pieces and theatrical properties of an unmade essay film in which "the missing people are a becoming, they invent themselves". (Cinema 2:208-215).

The principal aim is that through this encounter the thesis might bring to bear its mobilisation of science fictional, theory-fictional and philoso-fictional concepts, with empirical evidence of the speculative and design fictional, and to bring specific address to the ways in which pataphysical fictions have become a methodological concern for artistic research in design and architecture. Such an encounter, though artificial and treating its research objects pataphysically, is not itself meant as a 'designing' of philosophy, but rather as an attempt to design a kind of 'architecture – fiction' relation of its own making, to support an ontological commitment to the speculative that is missing from design research.

Inasmuch that Deleuzian and Deleuze-Guattarian⁵¹ methodologies have informed consideration of the objects of practice-based and artistic research already, this thesis considers Deleuze's conception of technological objects as objectile to be missing from this discourse outside of a limited application in the field of computational design in architecture. Re-mobilising this concept by dislodging it from the strata or plane of architectural computation on which it had become lodged became the central motivation of a book chapter (Hales 2015) for the EUP book *Deleuze and Design* (Brassett & Marenko 2015), which contains a highly compressed or 'condensed' version of part of its argument. Decompressing this chapter to further explicate its content in relation to the field of speculative design is a philosophical goal of the thesis.

The encounter and the assemblage loom large in the field of Deleuze studies and especially the discussion therein of the application of the Deleuzian assemblage in 'assemblage theory' and its application in research methods.⁵² Buchanan (2015) has already dealt with aspects of these complexities, but it will be worth rehearsing the main issues again here both generally and specifically. For in this generality and specificity a vista of possibility opens onto the scientifiction⁵³ of assemblage theories and the entanglement of objects with the Deleuzian assemblage and with speculative culture.⁵⁴

1.3.9 The Encounter as Method in Deleuze & Guattari Studies

Deleuze provides examples and explications of the encounter as method, within and external to his philosophical encounter with other philosophers, "between independent thinkers", he says, (1999:47) "encounters...always

⁵¹ The Deleuze-Guattarian had negative connotations in the critique of the Californian ideology of Barbrook's *Imaginary Futures*. The term is used affirmatively within the accelerationist frame of the thesis.

⁵² There is a small but growing literature on Deleuze-Guattarian research methodologies including Coleman & Ringrose (2013) Attiwill (2017).

⁵³ It is interesting that Latour chooses Gernsback's early and modernist term for what would become science fiction and the complicated objects of critical design fiction. see also Luckhurst (2006) for discussion on scientifiction and Latour's assemblages.

⁵⁴ See Harman (2009).

occur in a blind zone" and this characterises his early writing. Amongst the examples Deleuze provides is a kind of architecture fiction created by Samuel Beckett - as noted (by Murphy) in Deleuze's analysis of *Quad* in his essay 'The Exhausted'⁵⁵

the potentiality of the square is the possibility that the four moving bodies that inhabit it will collide - two, three, or all four of them - depending on the order and the course of the series. The centre is precisely that place where they can run into each other; and their encounter, their collision is not one event among others, but the only possibility of an event - that is, the potentiality of the corresponding space. To exhaust space is to extenuate its potentiality by making any encounter impossible. Consequently, the solution to the problem lies in this slight dislocation at the centre [...] that foresees the encounter and averts it (Critical & Clinical 1998:163).

One might also cite the Deleuze-Guattarian encounter with Lacanian psychoanalysis of their *Anti-Oedipus* and, specifically, what is encountered therein - the pataphysical machines that form a central part of the encounter of this thesis.

Do not count on thought to ensure the relative necessity of an act of thought or a passion to think. The conditions of a true critique and a true creation are the same: the destruction of an image of thought which presupposes itself and the genesis of the act of thinking in thought itself. Something in the world forces us to think. This something is an object not of recognition but of a fundamental encounter. (Difference & Repetition 2004: 139).

⁵⁵ For more on Deleuze & Beckett see *Wilmer & Žukauskaitė (2015)*.

Patricia MacCormack in *Encounters of Ecstasy* (2011), draws from Deleuze's encounter with Masoch where this entails a withdrawal, the suspension of reality, and the creation of fantasy; interleaving of St Teresa of Avila's encounter with the rapture the creation of schizo-mystical machines. The pataphysical machines of designers of paranoiac electrical devices (Deleuze and Guattari 1984:17⁵⁶); the sculptural concern of pataphysical architectures (Olshavsky 2012); and pataphysical little soft machinery⁵⁷ (Spiller 2006.) are encounters with ecstatic machines, both desiring and miraculating, self-inflected in terms modulated by the simultaneities of 'too-much' and 'not-enough' such that the intensities contained "become a consistency without differentiation or in-between connective tissue, actual or virtual" (MacCormack, in Beckman 2011:205).

On the possibility of encounter, Bogue explains that in the kinds of encounters Deleuze constructed he consciously sought, in his own collaborations with Guattari, what Bogue calls a mutual metamorphosis, a productive encounter in which each becomes the other (2008:10). Bogue suggests that every work of Deleuze's is such an encounter, one inducing "a decentering, a shift in the object of thought and its thinker" (ibid.). The mutual influence between the virtual and actual can thus be connected to another like relation, that relation between the fictional world and its possible futures. In his chapter *From Possible Worlds to Future Folds*, Simon O'Sullivan (2005 :121) produces an *encounter* between philosophical concepts "such as the monad and the fold" as a specific art practice.⁵⁸ The encounter is thus a methodology employed as a pragmatics of research and development expressive of a Deleuzian ontology and aesthetics, which stresses the affective and transformative dimension of the experiential encounter with objects, entities and artefacts –

⁵⁶ D&G's citation is to *L'Art brut no. 3*, p. 63.

⁵⁷ See for example *Little Soft Machinery* (2006).

from Neoplastic Design. AD. And also Spiller's own reference to Clinamen.

⁵⁸ O'Sullivan 2017 on the extro-science fiction of Meillassoux, on possible worlds in which science is not so much imaginary as impossible or unthinkable and the Syzygy of the CCRU's abstract culture. These were themes I have also explored in relation to Meillassoux and the CCRU and presented in an earlier conference paper at the University of Greenwich in July 2015 an outcome of my research fellowship with the New Centre for Research & Practice.

or of impactful *eidola* of research objects. The question of design's familiarity with fictions and how these are mobilised and instrumentalised requires a methodology that considers fiction as connected with the world as if a machine in which that fiction is constituted.

...the machine is a stranger to us; it is a stranger in which what is human is locked in unrecognized, materialized and enslaved, but human nonetheless. The most powerful cause of alienation in the world of today is based on misunderstanding of the machine.

Gilbert Simondon, *On the Mode of Existence of Technical Objects* (2017).

1.4.0 RESEARCH INTEREST IN FICTIONAL & POSSIBLE WORLDS

Speculative Design, and a nascent hyperstitional accelerationism, emerge in the turbulence of pataphysical postmodernisms, cybernetics and SF, after an ascendancy of powers British Philosopher Nick Land terms 'techonomic' in the decades following the fall of the Berlin Wall and into the twenty-first century. A Lucretian or pataphysical clinamen swerves and veers into/through/from speculative cultures at the time of the later *Exegesis*, and where the pataphysical seems to have been expunged and seemingly supplanted by a commitment to possible worlds of speculative capital: its deterritorialising social-fictions are not those of critique, but an affirmation of and for the free-market (D&R 2013).

At the time that Dunne was conceptualising the 'cultural probe' in research methodological terms, citing Sadie Plant as a psychogeographical source, in *Zeros + Ones: Digital Women + the New Technoculture* (1997) Plant suggests what this thesis treats as a distinctly pataphysical notion: the idea that fictions make themselves real, evident in the following citation:

William Gibson's Neuromancer describes a fiction of cyberspace as neither an actually existing plane, nor a zone plucked out of the thin airs of myth and fantasy. It was a virtual reality which was itself increasingly real...Neuromancer was a fiction, and also another piece of the jigsaw which allowed these components to converge. (Plant 1997: 12)

Plant's *Most Radical Gesture* is amongst the bibliographic sources cited in Dunne & Gaver's *Design: Cultural Probes* (1999). Whilst neither Plant, Gaver nor Gibson⁵⁹ are included as part of the *Exegesis* as formally constructed, it seems that a set of cultural techniques may have been absorbed and partially

⁵⁹ It is worth noting that William Gibson is cited as an influence on Spiller, whereas Sadie Plant is not.

exposed in designing the speculative projects of critical and design fiction and the simultaneously developing technique of 'hyperstition'. Sadie Plant, at the time of Dunne and Gaver's deploying their *Cultural Probes*, and referenced by them in this developing concept, was part of what was to be described as a renegade⁶⁰ academic community, one formulating a science-fictionally inflected approach to the technical object, adopting the theory-fictional mode of Baudrillard and fusing this with the almost parafictional⁶¹ Cybernetic Culture Research Unit (CCRU). The CCRU was significant to the kind of science fictional cyberculture that this thesis positions as proximate to speculative design. The CCRU was amongst the margins of abstract culture and theory-fictional relations with cybernetic technology in British and European media/device art of the mid 1990s to mid 2000s⁶² that this thesis reconfigures in tracing its pataphysical sources: an interlocking of notions of automatization with the cybernetic notion of feedback and a science fictional sense of anastrophe "*the future coming together*". (Land & Plant 1994)⁶³ Paucity of citational evidence on pataphysical influence within the literature of the CCRU might suggest only a passing or fleeting interest in Jarry. However, reference is made by the cultural theorist Mark Fisher one of the members of the CCRU⁶⁴ to Jarry's *La Surmale* and is therefore considered fugitive and implicated in the concepts and lost futures mobilised by Fisher as the post-CCRU's 'principal fabulist'. As has been briefly introduced already, the ideas of the CCRU resurfaced during the period of researching this thesis. It

⁶⁰ Reynolds 1999.

⁶¹ "Ccru does not, has not, and will never exist" (ibid). see also the parafictional essay of Lambert-Beatty (2009).

⁶² Broadhurst Dixon, J., Eric Cassidy (1998) It is significant to the nomadic distribution of these ideas that the first dates of publication for this and Dunne's *Hertzian Tales*, and their reprinting in 2005 are coincident. The CCRU and Virtual Futures and the mixing and confusion of Lovecraft, Deleuze and a weird versioning of continental philosophy in the jungle and drum & bass cultures of the Midlands and London legacies of the CCRU informed my own practice in media art and sonic culture as the Digital Research Unit (1998-2008). Hales & Holley (2008) *DRU Archive*, Arts Council of England.

⁶³ Land & Plant (1994).

⁶⁴ Fisher 1999:5 n8. "*Cf 'Necrospective', TE 89-99. Like Jarry's dead cyclist, contemporary metropolitan culture only appears to be moving forward because of the inertial weight of its own past (a past it simultaneously annihilates as the past, precisely by continually [re] instantiating it as the present).*"

appears amidst a tensile and volatile re-emergence of a cybernetic exploit⁶⁵ in the suggestion made by Deleuze with Guattari that we should *go further still* leading to the political philosophy of accelerationism and its bifurcation into left and right-hand revolutionary paths.⁶⁶

Which is the revolutionary path? ... To withdraw from the world market? ... Or might it be to go in the opposite direction? To go still further, that is, in the movement of the market? ... Not to withdraw from the process, but to go further, to 'accelerate the process.' (Deleuze & Guattari [1977] 2000:239-40).

1.4.1 Hyperstition and Fictions that make themselves real.

The methodological interest in pataphysics and speculative design as hyperstitional, stems from Alex Williams's specification in *Escape Velocities* (2013) of what an accelerationist aesthetics might look like. Following Williams and Srnicek's *#Accelerate: Manifesto for an Accelerationist Politics* (2013), as well as *Inventing the Future* (2015) Williams specifies an accelerationist aesthetics using his own quadripartite schema which we can re-categorise⁶⁷ as:

- 1 [Philosophy] In the process of epistemic conceptual navigation.
- 2 [Fiction] hyperstitional ideological feedback loops.
- 3 [Design] in the design of interfaces of control.
- 4 [Cybernetics] as a blueprint for action in complex systems.

⁶⁵ 'exploit' is used in the sense of the hacker term for a program that takes advantage of a flaw in a network system.

⁶⁶ And, as it transpired, left and right occultist accelerationist vectors. Mackay, R & Arman Avanessian (2014) is the central collection of essays, but the impulse is evident in the Urbanomic publications of *Collapse* journal associated with the emergence of Speculative Realism.

⁶⁷ The terms, *Philosophy*, *Fiction*, *Design* and *Cybernetics* in the above are not Williams's but proposed as appropriate to the purposes and thematic motivations of this thesis; the [bracketed] terms are my categorisation prepending Williams' scheme and are not treated singularly in this thesis but as a manifold.

The practices of hyperstition, tied to accelerationism, left, right and unconditional, of fiction as methodology in accelerationist aesthetics (Williams 2013), entail either matrices or manifolds of circuits, of design, fiction and 'coincidence intensifiers'. These approximate, it is proposed by this thesis, the modulatory power of what Deleuze names *objectile*. Aspects of this hyperstitional manifold can already be felt in Sadie Plant's observation of the reflexivity between cyberpunk and cyberspace as fiction, virtual and actualised. Yet another precursory source is the political activism of Franco Berardi's *Autonomia* zine *A/Traverso*⁶⁸ of which Simone Castaldi (2010), notes a tendency toward intertextuality and cultural horizontality and in which Berardi deployed tactics based on "*the principle that false information would produce real events.*" Which is to say, is a pataphysical praxis:

*Counter information denounced the lies of the institutions; wherever the mirror of the language of power deformed reality counter information re-established the truth, albeit as a mere reflection (...) Now we need to proceed further: it is not enough to expose the lies of the institutional power, we need to tear apart its truths. When the institutions tell the truth presenting it as the natural order of things we need to expose how inhuman and absurd is the order of reality that the order of their discourse reflects, reproduces and consolidates. It is necessary to take the place of the institutions, to speak with their voice, to produce signs with the voice and the tone of the institutions. Fake signs. Let's produce fake information revealing what the institutions are hiding. Let's reproduce the magic trick of falsifying truth to say with the language of mass media what they themselves are trying to avert (...) reality transforms language. Language can transform reality. (Berardi, *A/Traverso*, 1976 in Echuarrén, 11).*

⁶⁸ The relation of Guattari to the Radio Alice & *A/Traverso* projects is to be noted.

The clinamen and pataphysical syzygies of this thesis in many ways provide an encounter with design histories of an hyperstitional pre-millennial cybernetic culture⁶⁹ reprising design history in its entanglements with post-war cybernetics and science fiction. CCRU member Linda Trent (2004) suggests an hyperstitional aspect of the New Wave in British Science Fiction, and there is thus a syzygy of the hyperstitional and pataphysical objectile, an *"implexing of real world figures and situations into the fictional world (and conversely, the incursion of the fictional world into the world of the actual"*. In terms developed within this thesis this is also to note qualities of the New Wave SF concern with the technical object as pataphysical.⁷⁰ This might be held contra to the otherwise converging Lovecraftian source of hyperstitional and accelerationist motive of speculative design, whilst agreeing with the observation of Delphi Carstens (2013:12) on *"hyperstition as an aesthetic engagement or sensibility that engages with the horror and sublimity of technological proliferation."*

Hyperstition is a positive feedback circuit including culture as a component. It can be defined as the experimental (techno-)science of self-fulfilling prophecies. Superstitions are merely false beliefs, but hyperstitions – by their very existence as ideas – function causally to bring about their own reality. Capitalist economics is extremely sensitive to hyperstition, where confidence acts as an effective tonic, and inversely. The (fictional) idea of Cyberspace contributed to the influx of investment that rapidly converted it into a technosocial reality.

Nick Land, 2009⁷¹

The inclusion of D&R's *Fields and Thresholds*,⁷² in Neil Spiller's AD issue *Architects in Cyberspace (1995)* is 'interleaved' or in a 'foliated space'⁷³ with

⁶⁹ This thesis might be taken only to have begun a partial reconstruction of such a history as this is not necessary for its principal goal.

⁷⁰ see Part Three of the Thesis.

⁷¹ Nick Land (2009).

⁷² Dunne & Raby *Fields and Thresholds* AD issue *Architects in Cyberspace* 1995:61).

⁷³ In Jarry's terminology interleaving of space is a punning of interleaving pages between books a precursory metafictional tactic with a hint of the abstract mathematical spaces of Riemann. I suggest that Land and Dunne & Raby are interleaved in this spirit but also to

Nick Land's *Cyberspace Anarchitecture as Jungle-War* in the same issue. The concept of the cultural probe, in the philosophical sense then, can be used to triangulate across a zone of accelerationist thought established in defining the research interest of this thesis. In the above this can be seen to describe a reflexivity between Sadie Plant's observation on cyberculture, cyberpunk and cybernetic fiction; that hyperstition shares its lineage with Plant's thought intersecting with that of Nick Land; and in the political actions of Franco Berardi who would become critical of the repurposing of these same strategies 40 years after he himself had first deployed them. This is to say, the concept of the probe can also be used to test, flex and penetrate the surface of the research plane composed, to interleave and pass between its layers, to migrate across and traverse the boundaries of its fictional, parallel and possible worlds.

1.4.2 On Possible Worlds and Fiction as Methodology

The ontological power of fiction, constructed as an encounter with the artificial, can usefully be described as what Ian Buchanan has termed an *assemblage converter*. This is to say, that interruptions or interferences between forms of expression and content (2014:134) is one of the functions the thesis claims pataphysical machines serve as 'coincidence intensifiers'. It was in pursuit of a fuller engagement with speculative design as such a machinery that two studies on speculative hardware were undertaken (Hales 2015; 2016). Each of these lie to one side of the principal hypothesis and argument of the thesis, each overlapping, though, with the science fictional production of subjectivities in technical objects or objectiles found in Deleuze and Guattari's methodological encounter/ methodology of the encounter, and in pursuing the construction of an assemblage converter for the purposes of this thesis applied in the field of design research.

acknowledge that they are placed sequentially - or like a jump-cut of *Architects in Cyberspace*.

The engagement with the literature on Deleuze and Possible worlds in researching this thesis confronts the problem of Deleuze's creation of concepts which might seem to repeat across Deleuze's writings, yet differ and in significant ways between works, ways which mean they must only be considered together cautiously. Amongst these concepts is that of 'the possible' and of 'possible worlds'. Fortunately, other researchers have had an interest in such concepts and in their mobility. Although the concern of the thesis with the possible is quite particular, it connects with this more general interest in a philosophical set of concerns, albeit that these do not attend to the peculiarities of interest in possible worlds and the methodologies of the science of imaginary solutions. Of others conducting research closest to the interest in possible worlds from the field of Deleuze studies, are Ronald Bogue (Fabulation), and Simon O'Sullivan (Fictioning). Where there is a sustained engagement in each of these researchers with Deleuze and fictions, fabulating, fictioning and fabricating, there is a gap between this work and theirs in its pataphysical and fuller treatment of Deleuze's oft cited claim, made in *Difference & Repetition* that:

[A] book of philosophy should be in part a very particular species of detective novel, in part a kind of science fiction. By detective novel we mean that concepts with their zones of presence, should intervene to resolve local situations [...] Deleuze 2004: xix

Which is to say that none of this diminishes the importance of O'Sullivan's sense of fictioning in the production of subjectivity,⁷⁴ or Bogue's use of the concept fabulation, but that there is greater significance in O'Sullivan's and Bogue's sources and influences. In *What is Philosophy (1994)* Deleuze & Guattari conceptualise three 'chaoids', as three sisters – three daughters of chaos – each one holding dominion over one of three realms, but one realm

⁷⁴ A significant difference here is my emphasis on the concept of technical object as *objectile* and the pataphysical dimension of science fiction which are both central to this thesis and not a part of O'Sullivan's argument.

each and no more, one each from art, science and philosophy. There are complications for this thesis in so defining these realms, because architecture and design cannot be placed in any single domain with any precision. Neither one nor the other, architecture or design, can be strictly assigned a single realm of its own; neither can be put into the care of any specific sister or daughter of chaos. Within the field of design and architecture in Higher Education, the assignation of design has, though, been at least allied to the realm of art, with architecture somehow a split-site, traversing both 'art and science'.

The realm of art to Deleuze and Guattari is the realm of the possible; that of science, the actual; that of philosophy, the realm of the virtual. In *What is Philosophy*, Deleuze and Guattari suggest a model for the work of art that instead of actualising the virtual, embodies it as 'a life, a universe'. This repeats a view they share with Nietzsche that such universes should "invent modes of existence or possibilities of life" (*What is Philosophy* 1994:73) and another they share with Simondon of the modes of existence of the technological object.⁷⁵ Such universes, they claim, "are neither virtual nor actual; they are possibles, the possible as aesthetic category." (1994:177) Much of what is said in *What is Philosophy* can be traced to Deleuze's earlier work – preceding his collaborative writings with Guattari. In Guattari's own writings he too adopts the possible in the production of subjectivities, where *the same entitative multiplicities constitute virtual Universes and possible worlds* (Guattari 2006:113).

For Deleuze and Guattari fiction affords a transversality and the possible world as dimension of the production of subjectivities. Inevitably, the research becomes entangled in a triptych of their virtual, actual and possible. The following seeks to contribute to extant material on this philosophical triptych

⁷⁵ Simon O'Sullivan also writes on Simondon, though through a magical and occult lens that is not a central part of the interest of this thesis. O'Sullivan 2018.

in pertinent analysis and commentary on Bogue (Fabulation) and O'Sullivan (Fictioning) and by focussing on the possible. Although the interests of Bogue and O'Sullivan square poorly with design, they are significant to the Deleuzian and methodological interest of this thesis, if not to its design-pataphysics-philosophy confluences. Before either of these authors though, Brian Massumi had already articulated well the Deleuzian problematic of the virtual and the possible (1987, 2002). Massumi is also the translator of Deleuze's use of the term agencement as assemblage and this too has repercussions for research methodologies broadly and as deployed within this thesis as was outlined earlier.

Where this thesis departs from Bogue, and ultimately from Deleuze too, is in an engagement with possible worlds in theories of fiction, or, to put this otherwise, of the methodological import of fictional worlds and possible futures. Whilst this departure from Bogue will bring my own research closer to O'Sullivan, for instance in his interest in the 'complex area in which philosophy bleeds into Science Fiction'⁷⁶ However, O'Sullivan's engagement with science fictionality and Deleuze-Guattari does not take up the pataphysical concepts of this thesis.⁷⁷ There are also the ways in which Bogue and O'Sullivan are each asking questions of the future and, specifically, differentiating speculative futures, as virtual, from possible. The hypothesis of this Thesis though differs from O'Sullivan and the burgeoning of concern with fiction as method gathering around his performance practice (2012) in original and significant ways.

Much of Deleuze's philosophy depends on the distinction of virtual/actual seemingly independent of the possible as category or world. How are we to clarify matters for speculative design and its association with art and the realm of the possible? Leaving aside the question of design, for he is writing with

⁷⁶ O'Sullivan 2012:230n.17.

⁷⁷ Although O'Sullivan and I are, somehow, each caught in the afterglow of the Cybernetic Culture Research Unit and Nick Land, Mark Fisher et al. in *Hypersition*, and interested in Land's sense of accelerationism in and as itself speculative finance.

the problems of literature and film, Bogue identifies two questions: what relation does the possible have with the virtual and the actual; a relation that will help art design and architecture's relation to science(actual) and philosophy (virtual); and what connection might there be between 'the possible as aesthetic category' and philosophy's invention of 'possibilities of life'? Where these concerns are present in Deleuze's final collaboration with Guattari, *What is Philosophy*, per Bogue with whom I concur, this contains only limited clarification of the relations in question - between possible, virtual and actual. To get at the potential of these relations, requires the analysis of Deleuze's books where the possible and possible worlds can be found to be used as both a negative, in the sense ventriloquised in the Deleuze-Bergsonian possible, and as an otherwise affirmational concept. In the following the category of the possible is approached through its appearance in Deleuze's and Guattari's interleaved texts achronologically, and only the books within which the concept of the possible (and the possible world) is directly invoked, suggesting that the material be collated and reviewed thematically. Thus, the critique of Bergsonian sources considers the works *Bergsonism*, *Difference and Repetition* and the essay on Tournier in appendix II to the *Logic of Sense*, and his books on Cinema especially on *Cinema 2*. The more affirmational and Leibnizian (although never fully shaking off the slough of despond or Bergson's duration) is found in *Proust & Signs*; *A Thousand Plateaus*; and *What is Philosophy?* Furthermore, that two of these works are written collaboratively with Felix Guattari demands that the category of possible in Guattari's writings on the production of subjectivity is also considered in the *Syzygies* of Part Three of the thesis.

It will suffice to observe, for now, that the division between Artistic and Speculative Design research demands an emphasis on the ontological power of fictions which differentiates itself in the confluence of the term 'design fiction'. This might, at the same time, converge with art and political philosophy in the confluence of the term 'critical design'. However, to take things slightly further, these differences and bifurcations can be expressed

with regard O'Sullivan (2012) for whom, whilst there is a recognition of the science fictionality of Guattari's *Chaosmosis*, this is not at all developed with respect to the science fictionality of Deleuze's books of philosophy as being in any sense pataphysical. That the thesis develops through the motif of pataphysics and the pataphysical clinamen in its investigation of science fictional concepts is its singular contribution to study on Deleuze and to Deleuze & Guattari. Furthermore, neither O'Sullivan nor Bogue put the Deleuze-Guattarian into an encounter with the multiplication of the *assemblage* of possible worlds of science fiction and pataphysics for design research.

1.5.0 PHILOSOPHICAL BREAKS AND CONTINUITIES

1.5.1 From cybernetic fiction to fictional world theories

We have already begun to see that Dunne's exegesis of speculative design and its transition from critical design to design fictions can be characterized by philosophical breaks as well as continuities. More positively then, a sense of its engagement in post-cybernetic fiction and in making fictional worlds provides one such continuity to Dunne's *exegesis*. Where Dunne draws on Porush in *Hertzian Tales*, in *Speculative Everything*, co-authored with Fiona Raby, this is supplanted by a combination of Doležel, Iser and Kendall-Walton but further pursues, albeit in theories of possible worlds, what Porush had described as an intertwining of literature with cybernetics:

The intertwined development is the rise of cybernetics, which quite simply has mathematised and scientised the very stuff of literature: that is, communication and information. The second development is the current emergence of a postmodern paradigm in science paralleling the well-documented literary one. (Porush 1989: pp. 373-396).

One persistent philosophical interest of D&R, discernable in both *Hertzian Tales* and in *Speculative Everything* with the history of philosophy, is in the concern with fictional and possible worlds. This concern, whilst originating in British theorist of the modal logic of possible worlds David Lewis, provides a point of convergence with a Deleuzian mode of thought that is exploited in the conclusion of the thesis, for Deleuze and Deleuze & Guattari have developed concepts involving possible worlds that are differently configured than the Lewisian. Between this supplementary plurality of worlds, the possible worlds of Jarry, those of Ubu or Faustroll, is a kind of difference Lewis notes, as existing between two people "*if one inhabits a Riemannian and the other a Lobachevskian spacetime*" (2001: 16). This relation – productively brings together Lewis's ideas about possible worlds and Jarry's fictional worlds of

possible universes 'supplementary to this one', with Deleuze's analysis of the higher dimensional spaces and the 'power of the false' of cinema:

But, at the same time as concrete space ceases to be hodological, abstract space ceases to be Euclidean, losing in turn the legal connections and laws of extremum which governed it. Of course, we realize the dangers of citing scientific propositions outside their own sphere. It is the danger of arbitrary metaphor or of forced application. But perhaps these dangers are averted if we restrict ourselves to taking from scientific operators a particular conceptualizable character which itself refers to non-scientific areas, and converges with science without applying it or making it a metaphor. It is in this sense that we can talk about Riemannian spaces in Bresson, in neo-realism, in the new wave and in the New York school, of quantum spaces in Robbe-Grillet, of probabilistic and topological spaces in Resnais, of crystallized spaces in Herzog and Tarkovsky. We say, for example, that there is Riemannian space when the connecting of parts is not predetermined but can take place in many ways: it is a space which is disconnected, purely optical, sound or even tactile (in the style of Bresson). There are also empty and amorphous spaces which lose their Euclidean coordinates, in the style of Ozu or Antonioni. There are crystallized spaces, when the landscapes become hallucinatory in a setting which now retains only crystalline seeds and crystallizable materials. (Cinema 2. 2000:127-129)

In D&R's exegesis the interest in these concepts are no less Riemannian, topological, amorphous or crystallised, but stem from Brechtian sources and the migration of the notion of estrangement from what Schklovsky calls a 'device' or 'technique' to the field of science fiction studies and in the *novum* objects of Suvin's *Metamorphosis of Science Fiction* a cognitive estrangement to the "factual reporting of fictions" (Suvin, 1979). Whilst Darko Suvin's literature of cognitive estrangement is of influence to the Exegesis of

Speculative Everything, the theoretical frame clearly and strongly shifts to the fictional and possible worlds theories of Lubomír Doležel. This, at root, is a development of the modal logic of Saul Kripke and David Lewis. Such a logic is not at all Baudrillard's, as the development of the possible world by Baudrillard is only negative.⁷⁸ D&R take a syncretic approach combining this sense of the science fictional device and the literary theoretical convergence of Ruth Ronen's work on possible worlds in literary theory (1996) which in turn depends upon David Lewis's theories of *Possible Worlds* and *Counterfactualities* (2001) and to a lesser extent Marie Laure-Ryan's narrative worlds and Thomas Pavel's *Fictional Worlds* (1986). D&R further reference the influence of Hans Vaihinger's *Fictionalism* (1924), Iser's *Fictive and Imaginary* (1993) and Kendall Walton's *Mimesis as Make Believe* (1990), as well as attending to the fictional items of *Meinong's Jungle* (Routley & Sylvan 1980). These lay out a plane of philosophical opposition and allegiances that will be played out in reaching the conclusion. D&R's interest in the unsettling potential in the present of the possible worlds of art (2013:88) is clearly indebted from the start of their project to the estrangement of Russian formalist poets – and it is no coincidence that it is from Shklovsky that Suvin develops the idea that science fiction is the literature of cognitive estrangement. The continuity of this interest between *Hertzian Tales* and *Speculative Everything* is significant. Christian Bök has suggested (2000:84) that Deleuze and Guattari's notion of a 'nomad' science (*A Thousand Plateaus* 1996: 361) deploys Shklovskyesque "tactics of *ostranenie*", of estrangement. Bök's comparison accompanies his considering the imaginary solutions of the Canadian "*Pataphysical Hardware Company*" of the poet bpNichol (1992) and other pataphysical laboratories⁷⁹, which Bök says "act as

⁷⁸ The reference is to the *Radical Thought* (Baudrillard (C-theory 1(995) in, *The Perfect Crime* 1996:94-110)

⁷⁹ It is to be noted that Butler is the first to develop the idea that machines might develop consciousness by Darwinian selection using an 'hypothetical language' the delicacy of which is employed by the machines to self-construct and that Butler employs a mode of speculation familiar to Dunne & Raby *reductio ad absurdum* and the Colleges of Unreason compare well with the Collège de 'Pataphysique.

cognates for the academies of Laputa or Erewhon” (2000:84) and which explore what he terms the poetics of anomaly.

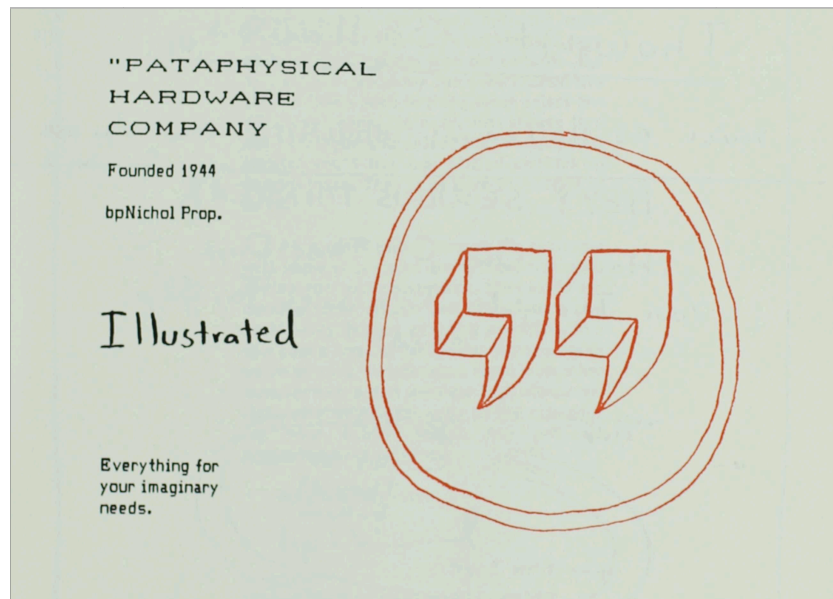


Figure 1. Pataphysical Hardware Company bpnichol.

To the above list of laboratories, we might add the *International Institute of Extraterrestrial Cultures* (Strugatsky & Strugatsky (1971), and myriad other R&D labs of popular and abstract culture, from the *Institute of Militronics and Advanced Time Interventionality* (Treister); to Ballard and Paolozzi's interest in the *Road Research Laboratory*, and Halford & Beard's *Voodoo Science Park* (2010). Alongside the science fictional IIEC from *Roadside Picnic*, its architecture fiction the 'wish machine' and its design fictions including the 'full empties', Luis Bec's *Institut Scientifique de Recherche Paranaturaliste*; Nat Chard's *Institute for Paradoxical Shadows*⁸⁰ can serve to illustrate the interest in architecture fictions as it will be developed in the Syzygies of the thesis.

1.5.2 Jarry & Possible Worlds

Caesar Antichrist, declares that "God - or I myself - have created all possible worlds, they co-exist, but men cannot even catch a glimpse of one of them"

⁸⁰ Other pataphysical laboratories, for the purposes of this thesis, include the pataphysics of the ludic society and of cyberspace pioneer Howard Rheingold.

(1992:122) and *Faustroll* assigns to God/Nature a geometrical definition that runs through all possible worlds, as a line between nothingness and the infinite, a universal presence in the pataphysical universe. Both Jarry and Guattari construct *island universes*; although Jarry's geometrical vector, running through all possible worlds accelerates and decelerates in one dimension, in another it swerves and multiplies – as Guattari also suggests – the number of possible worlds. Those islands Jarry invents for *Faustroll* and names after artists, each of which we could say, following Deleuze & Guattari 'involves a plane of immanence as a movable and moving ground, a field of radical experience, an archipelagian world' (1994:105) found, for example, in the ways *Faustroll* is happy to move from Paris to Paris by sieve, 'from island to island and over the sea...nomadizing the old Greek earth, broken up, fractalized, and extended to the entire universe.' (Deleuze & Guattari 1994:105).

Another point of departure buds and bifurcates from the association of possible worlds theories with studies of fictional worlds: Lines of divergence from the literature on Deleuze and possible worlds collide in confluences of pataphysics and speculative fiction that this thesis suggests as mode and milieu for the science fictionality of Deleuze's books of philosophy, suggesting the reference to Jarry be considered alongside the considerable material on Deleuze and artistic research in the arts and humanities. Predicated on heterocosmic multiplication and growth, possible worlds as they might be construed for design "have [a] transcendental existence" (Doležel 2010:30). Sometimes they are architectural books containing dreams of other realities, Colonna's *Hypnerotomachia Poliphili*⁸¹, the renaissance treatise and architecture fiction which serves as a model or prototype for the material imaginaries of architecture fiction into the 21st century.

⁸¹ For the fullest discussion of the *Hypnerotomachia Poliphili* and its architectural significance see Lefavre 1997. For its significance in the imaginaries of visionary architecture see Spiller 2006.

Such continuities are claimed⁸² for Ernesto Caivano's *After the Woods*⁸³, in which the people, as well as the architecture are missing. Caivano's *Philapore's* and the advanced technologies of his narrative *After the Woods* bear some phylogenetic equivalence to Colonna's *Poliphili* and the *Hypnerotomachia Poliphili*, or as Deleuze & Guattari note (1988: §10) of the multiple and molecular subjectivities of Randolph Carter in Lovecraft's books of dreamlands, where amazing things and extraordinary things, sublime, miraculous and unspeakable things occur and can be found again in Guattari's UIQ (Thomson & Maglioni 2016).

1.5.3 Pataphysical Science and Fictional Worlds

Reference to Porush's *Cybernetic Fiction* in *Hertzian Tales* is proximate to its discussion on pataphysical properties of Klee's *Twittering machines*, which Deleuze & Guattari also use to illustrate *A Thousand Plateaus* using this painting as an epigraph in *A Thousand Plateaus* (1996: §11).

For Dunne, what we will term following Deleuze and Guattari the possible world of Klee's *Twittering Machine*, is a space:

in which a strange device hovers in the imaginary space of the drawing, suggests a realm where machines do not simply mirror rationality through nonsensical functions but embody alternative physical laws to ours, like Marcel Duchamp's "Large Glass" and the "Pataphysics" of Jarry (Dunne 1997:43).⁸⁴

⁸² The present thesis makes this claim after personal communication with Ernesto Caivano (1st June 2016).

⁸³ *After the Woods* is an ongoing sequence developed by Caivano. In the narrative, the woods symbolize an alternative reality informed by folklore, fairytales, and contemporary technology.

⁸⁴ D&G 1996:310-

After *Hertzian Tales* this alternative pataphysical dimension seems to give way to that of narratologists and modal logicians. It is a curiosity that in *Speculative Everything*, Baudrillard's philosophical voice is entirely absent. Indeed, the philosophical poststructuralism of the earlier *Exegesis* is erased from *Speculative Everything* – replaced by the voice of Hans Vaihinger, fictionalist philosopher of the as-if (2009), and Lubomír Doležel, literary theorist of fictional worlds. These voices though are again given a rather ghostly presence and are underdeveloped in the argument of the *Exegesis of D&R*; the philosophical stand is as illustrative as the previous *exegetical* references to Baudrillard, and invites comparative analysis.

Philosophical references of the *Exegesis* are not so much commitments or allegiances as citations of the kind Sokal (1998) pithily termed philosopho-literary fictions. Poststructural philosophical thought on the intersection of fiction, the future, and the speculative is elided in what seems to have taken a turn to a post-critical mode offering only ghostly philosophical commitment. Such reference in the *Exegesis* is a source for the appropriation of philosophical concepts, applied by D&R to frame their turn to the counterfactual and to the fictional worlds and possible objects of modal logic expressed most explicitly in the project *Meinong's Jungle: Theory of Objects*⁸⁵

Lubomír Doležel and Deleuze/Guattari privilege ficto-critical making or world-building in different ways. For Deleuze & Guattari this is decidedly non-representational, yet still diegetic. As world-building machines Design Fictions would still work as other fictions, as what Anne Sauvagnargues describes as a "pragmatic assemblage", as relations of production a society uses to mold its subjects (2013) and would be simply "the art of making and understanding the world" (Doležel 1998:42). However, pataphysical fictions would be

⁸⁵ A video of the project in which D&R suggest "non-existent objects and even impossible objects such as round squares should be included in any proper taxonomy of objects, something we find very interesting in relation to our work with imaginary objects." is available at <http://dunneandraby.co.uk/content/projects/773/0#>

assemblage converters and open vistas of possibility (Buchanan 2014: 115-125).

If we could make design fiction for media philosophers would they work in this way? Perhaps it will be useful to draw from literary fiction to parallel the level of detail of the designer/writer in staging the encounter and its gaps, expose the ruptures and crannies of the future to borrow Whitehead's phrase, in their renderings of tomorrows. It is in the spirit of just such an exploration *in the crannies of the pataphysical future* that this thesis stakes its claim to originality.

Jarry's pataphysical machines and the artefacts of speculative design exemplify what Stuart Kauffman (2002:142) terms the 'Adjacent Possibilities' of invention and what Steven Johnson (2010) described as "a kind of shadow future, hovering on the edges of the present state of things, a map of all the ways in which the present can reinvent itself." Adjacent Possibilities, in potentialities of technological individuation seem to have been sensed by Dunne & Raby as the realm occupied by Klee's Twittering Machine in its hovering over the pataphysical spaces of the *exegesis*.

PART TWO: ARGUMENT

2.0.0 Pataphysics

Pataphysics will examine the laws governing exceptions, and will explain the universe supplementary to this one; or, less ambitiously, will describe a universe which can be – and perhaps should be – envisaged in the place of the traditional one, since the laws that are supposed to have been discovered in the traditional universe are also correlations of exceptions, albeit more frequent ones (Jarry 1996: 22).

The French Symbolist writer of plays, novels and essays Alfred Jarry (1873–1907), or, more precisely, his fictional creation Ubu⁸⁶, King of Poland, founded the science of pataphysics in the late nineteenth century studying *'the universe supplementary to this one ... a universe which can be ... envisaged in the place of the traditional one'* ([1911]1996: 21). The 'discovery' of pataphysics itself was first brought to attention by its discoverer, Alfred Jarry, using the term 'pataphysique' in his play *Ubu Roi* (1896) ascribing to its character Pere Ubu, the title 'Doctor of Pataphysics'.

The concepts, principles and tenets of pataphysics were developed more fully in Jarry's *Faustroll* where principles of 'Equivalence', 'Syzygy' and 'Clinamen' are found. The science of pataphysics is described by Jarry's *Exploits and Opinions of Dr. Faustroll, Pataphysician* ([1911] 1996),⁸⁷ as investigating *'that which is superinduced upon metaphysics, whether within or beyond the latter's limitations, extending as far beyond metaphysics as the latter extends beyond physics'* (ibid:22). In Jarry's proto-surrealist fictions he described a variety of mechanical designs and contrivances and over the course of the twentieth century, Jarry's novel *Faustroll* (1911), and other pataphysical supercession of the metaphysical, influenced speculative and science fiction

⁸⁶ There is a certain equivalence, not so much autobiographical as that which Deleuze and Guattari termed conceptual persona (1994:61-84) adopted by Jarry.

⁸⁷ Hereafter *Faustroll* (in ital.)

novelists, including J.G Ballard to P.K Dick, selected by D&R in the exegesis. Jarry was also an influence on the philosophers Jean Baudrillard and Gilles Deleuze, to select a convergence of science fiction and philosophy pertinent to this thesis. In post-war Paris, a group of writers and thinkers, founded *The Collège de 'Pataphysique* in 1947.⁸⁸ The Collège 'occulted' itself between 1975-2000, but singularly failed to prevent the ongoing transcontinental adoption and development of pataphysical ideas.

2.0.1 The Discovery of 'Pataphysics, its Definition, Principles and Tenets

The designer Anthony Dunne, refers to a 'pataphysical realm' in *Hertzian Tales* (1997:43). The mention of this realm, intersecting design with the science of imaginary solutions also intersects with what Deleuze and Guattari term the 'planes of the chaoids'. Quietly introduced as a contiguous realm to that occupied by Klee's *Twittering Machine* (1922) and within Duchamp's "*Large Glass*" (1915-23); contiguous too, with literary machines in David Porush's survey of *Cybernetic Fiction* (1985). however, this pataphysical 'realm' will deepen the encounter with Jarry's influence in the *exegesis*, extending to it the spatio-temporality of alternative physical laws (Dunne 1997:43) as well as furnishing future territories with pataphysical technological objects. In discovering pataphysical ideas in Dunne's exegesis it became clear that attending to cultural histories of cold war and millennial pataphysics would entangle its architectural and science fictional influences in a comparative approach to the philosophies of technical objects of Gilles Deleuze and Jean Baudrillard.

Whilst Jarry's interest in possible worlds is most evident in the related play, *Caesar Antichrist* (1895), it is also in *Faustroll* that Jarry's association of possible worlds of mathematical 'fourth dimensional' and the abstract spaces

⁸⁸ For research on the Collège, the histories of pataphysics and details of Jarry's biography the thesis depends upon the published works of Alistair Brotchie (2015), Andrew Hugill (2012), Jill Fell (2005, 2010) and Linda Klieger-Stillman (1983).

of pataphysics is most developed. It is from *Faustroll*, and largely via the artist Marcel Duchamp, that pataphysical ideas enter architectural discourse⁸⁹ (Henderson 2013; Kiesler 1937) as well as anticipating forms of intertextuality which the thesis compares with the abstract spaces of Deleuzian 'numerical images' and objectiles. 'Colleges' of pataphysics and other quasi-institutional manifestations of the science of imaginary solutions were established across Europe after 1947. The Collège de 'Pataphysique (Paris 1947-1975 and again from 2000-) attached many artists to its membership⁹⁰ and it is via these artists and their continued artistic development of pataphysical notions and tenets become recorded in diverse registers of science fiction, continental philosophy, cybernetics and architectural theories of the machine. Foremost of these principles of pataphysics associated with the technical object, is the *Clinamen*.⁹¹ To the Pataphysician, Faustroll's *Clinamen* is both a concept and exemplifies the paradigmatic pataphysical machine and technological object. Furthermore, the concept *clinamen* possesses an interdisciplinary mobility.⁹² A pataphysical *Clinamen* thus serves as a prototype for science fictional, philosophical and architectural machines.

The thesis is concerned with late 20th century Anglophone reception of pataphysical ideas. For example, from the pataphysical interest of Hugill (2014) in Jarry's algebraic and geometric passage beyond the metaphysical to pataphysical abstract spaces, the thesis makes its equivalences between Jarry's pataphysical 'sieve', Deleuze's tabular grid the objectile (the *clinamen*) and a syzygy with Bergsonian 'nets' of arithmetic and 'meshes' of geometry (Bergson 1944:399). To achieve such equivalencies the thesis is necessarily entangled in archives of pataphysics and offers its partial account of

⁸⁹ See for example "*Duchamp's Glass is the first x-ray painting of space*" In Frederick J. Kiesler [Author, Designer], Berenice Abbott [Photographer]: DESIGN—CORRELATION. New York: F. W. Dodge Corporation, 1937. See Haralambidou (2013) for an account of the impact of this work.

⁹⁰ Voluntarily, honourarily and posthumously.

⁹¹ *Clinamen*, in title case and ital. will be used throughout the thesis to refer to Jarry's *Clinamen*, to avoid confusion with the philosophical discussion on the concept.

⁹² Mobile in the sense of Mieke Bal's (2002) notion of the mobility of concepts.

pataphysicians involvement in the cultural histories of architecture, and science fiction.

Constructing the thesis has required this archival and literature search, not so much as seeking to add to the extant material on pataphysics, but to bring the material in question into conjunction with something new, combining interest in design and thematic and disciplinary intersections with pataphysical concepts tenets and traits discoverable in the registers of architectural and science fictions. There can be no claim to the completeness of a survey of the literature on pataphysics as the material is inordinate, which is also to say its archives too pataphysical. This necessary incompleteness and partiality aside, archival research has been productive, and has been thorough in its identifying the cultural transmission and absorption of pataphysical concepts alongside then emerging interdisciplinary cultures fuelled by a pop and science fictional sensibility. What the thesis does do is provide illustrative references evidencing singular points of connectivity between pataphysics and the domains of interest in as much as these were sufficient to develop a testable hypothesis and construct a genealogy of its pataphysical objects limited to its own purposes.

2.0.2 Pataphysical Equivalences

Equivalence lies at the very heart of 'Pataphysics, something that is made clear in the earliest pages of Exploits and Opinions of Dr Faustroll, those that concern the library of the Inamovable Curator.
(Foulc 2014:20)

Foulc's reference to *Faustroll* above is to the naming of 27 books equivalent to *Faustroll* itself and subsequent distribution "*Across the foliated space of the twenty-seven equivalents, [from which] Faustroll conjured up into the third dimension...*" (*ibid*) unfolding a set of objects, one and sometimes more, from

each of the 'interleaved' dimensions of these books and their pages as equivalent universes supplementary to Faustroll's. There are certain pataphysical concepts that present philosophical difficulties. The pataphysical principle of equivalence would be problematic, for example, if insisting on repetition without difference. But the pataphysically equivalent, as the infinite aberrance of adding or subtracting supplementary worlds, seems to be compatible with the Deleuzian insistence on the disjunctive synthesis, and/or rather than as-if, of worlds "*superimposed upon and supported by the passive syntheses of imagination*"

the world is a gigantic aberrance, which, additionally and universally, is based upon an infinity of other aberrances. whatever we may say about it is a fiction of a fiction. Foulc 2014:9

Likewise, when it comes to consideration of a pataphysical realm, the realms of art science and philosophy are referred, in *What is Philosophy*, as three 'chaoids'. These are three sisters – three daughters of chaos – each one holding dominion over one of three realms, but one realm each and no more, one each from art, science and philosophy (Deleuze & Guattari 1994:204-208).⁹³ The pataphysical *postulate of equivalence* assumes that realms of Art & Science (and one must assume Philosophy) *contain all infinites*. For Deleuze & Guattari such infinities as the chaoids are *forms of thought and creation [...] the brain is the junction - in the brain was the synthesiser - not the unity – of the three planes* (Deleuze & Guattari 1996:208). In 1982, Sandomir, Vice-Curateur-Fondateur du Collège de Pataphysique, decreed that "*there is thus no difference between minds, any more than there is any difference between their products*". Deleuze & Guattari seem to be in accord with the pataphysical postulate of equivalence in *What is Philosophy* when they say that "*Thinking is thought through concepts, or functions, or*

⁹³ the material here has benefitted from two interrelated conference papers in futures studies contexts (Hales 2015a; 2015b) as well as that for Deleuze Studies Daughters of Chaos (Hales 2015c).

sensations and no one of these thoughts is better than another, or more fully, completely, or synthetically 'thought'. " (1996:198). They also seem to concur with Jarry in the equivalence of a correspondences between daughters, between their realms or the planes of the chaoids, and between "other heterogeneous elements which are still to be created on other planes: thought as heterogenesis" (1996:199):

With its concepts, philosophy brings forth events. Art erects monuments with its sensations. Science constructs states of affairs with its functions. A rich tissue of correspondences can be established between the planes. But the network has its culminating points, where sensation itself becomes sensation of concept or function where the concept becomes concept of function or of sensation, and where the function becomes function of sensation or concept. And none of these elements can appear without the other being still to come, still indeterminate or unknown. Each created element on a plane calls on other heterogeneous elements, which are still to be created on other planes: thought as heterogenesis. (1996:198)

2.0.3 Clinamen & Syzygy

Roger Shattuck, in *The Banquet Years* ([1955]1968), and in publications dedicated to pataphysics written with Simon Watson Taylor, notes amongst the traits and tenets of pataphysics, *Clinamen* and *Syzygy*. Bök (2002) adds to these two, the figure *anomalos* where instead the thesis relies on the principle of Clinamen to contain both error, combinatorial potential, time-anomaly, indeterminacy and chance, as will be clear from the revised clinamen redux undertaken by Part Four of this thesis. The *Clinamen* of pataphysicians is, first, the concept clinamen⁹⁴ associated with Epicureanism

⁹⁴ A definition of clinamen can be read *passim* in Serres, M., (2000) *The Birth of Physics*.

after Lucretius's poem *de rerum natura*,⁹⁵ which describes a swerve within the fall of atoms. Second, *Clinamen* is the pataphysical machine of *Faustroll*. Brotchie and others attribute the pataphysical clinamen to an influence on Jarry of his philosophy teacher, Henri Bergson, and as Bergson had himself written on Lucretius' poem this line of influence seems to be at least likely. Further influence and interest in this respect is with the then emerging scientific thought on the fourth dimension with which Jarry is sometimes associated (Klieger-Stillman 1982:72-81; Henderson 2018) for his interest in the abstract mathematical spaces of Riemann, and the contextualisation of pataphysical objects in this thesis has these spaces in mind in considering the Deleuzian objectile. In Faustroll's machines the suggestion of a 4th dimension is interleaved with ahistorical and atemporal fictional and possible worlds by twentieth century disciples of Jarry's pataphysics including Marcel Duchamp. A detailed analysis of the clinamen in its pataphysical contexts as well as in the context of Deleuze's essay, *the Simulacrum and Ancient Philosophy (Logic of Sense 2009:291-320)*, is given in the final part of this thesis *Clinamen & Objectile*. Provisionally though, philosophical interest in clinamen can be described for the purposes of this thesis, by a definition provided, not by Bergson or Deleuze, but by Gilbert Simondon:

Anything that can serve as the basis for a relation is already of the same mode of being as the individual, whether it be an atom, an external and indivisible particle, prima materia or form. An atom can enter into relation with other atoms via the clinamen. It constitutes thereby an individual, viable or not, through the infinite void and the becoming without end. Matter can receive a form, and within this form-matter relation lies the ontogenesis. (Simondon 2009: 4).

⁹⁵ The version of this, circa 1st century BC, poem used is that in translations of Serres, M. *The Birth of Physics*, Latham, R (1994) *Lucretius, On the Nature of the Universe*. London, Penguin.

In *Clinamen & Objectile* we will become concerned with an assimilation of the Deleuzian concept of the objectile to the clinamen, for now it will be sufficient to highlight certain equivalences between Simondon's clinamen and Deleuze's objectile expressing mutual concern with form-matter relations in advance of our supplying a substantiation for Massumi's assimilation of one to the other:

The new status of the object no longer refers its condition to a spatial mold – in other words, to a relation of form-matter – but to a temporary modulation that implies as much the beginnings of a continuous variation of matter as a continuous development of form. (Deleuze 1993: 19)

Similarly, the pataphysical syzygy, is generally taken to reference its astronomical definition as an alignment of stars (Shattuck in Jarry 1996: xvii). There is no need to deviate from this definition greatly, indeed the evidence in Faustroll points strongly to the astronomical influence of planetary alignment, perhaps in its hermetic dimensions. "[...] caught unawares by the ebb tide, since the period of syzygy was nearing its end" (Jarry 1996:62). Nevertheless, Jarry's later association (98) of the syzygy of words and hence with the syzygy of fictional worlds and the syzygies of words in interleaved spaces (i.e. between pages) suggests that given the interest of Jarry in the abstract spaces of fin-de-siècle mathematics, that the meaning of the *syzygy* is more appropriately considered, for the purposes of this thesis, in mathematical rather than astronomical terminology. In mathematics, a *syzygy*, by the late 19th century had come to take on the meaning *a relation of relations*. A syzygy of Syzygies is also to be noted in the Syzygy (1999) of the Cybernetic Culture Research Unit and its collaborators Orphan D(rift) (1995): "*While the CCRU was more interested in the theoretical underpinning of the show, the Orphan's side concerned itself with the dynamic reconstruction of various numerically based cultural machines, and to this extent there was a fictional element.*" (Flint, 1999). This definition of the *syzygy* as the relation of relations in the

encounter between pataphysics, science fiction and philosophy, is aligned with the construction of the nomadic distribution in the methodologies of this thesis. Having provisionally attended to the literary context of pataphysics, it will now be necessary to place speculative design within a broader terrain of design research.

2.1.0 SPECULATIVE DESIGN

For the purposes of this research, Critical Design and Design Fiction will be referred collectively under the rubric of *Speculative Design* and noted as different tendencies within this supercategory. These tendencies are each concerned, yet in different ways, with design and a 'suspension of disbelief about [*accelerating*] change' (Sterling 2011). Taken collectively, speculative ways of designing are viewed as ways of provoking questions about society, innovation, science, technology and the future. 'Speculative' in this sense, parallels the ways in which speculative fiction has come to operate as '*meta-generic fuzzy set supercategory – one defined not by clear boundaries but by resemblance to prototypical examples – and a field of cultural production*'.⁹⁶ (Oziewicz 2017).

2.1.1 Speculative Design and Speculative Culture

Speculative Design can be considered in the meta-generic and supercategorical way suggested above, as its practitioners and commentators alike freely use a range of similar terms interchangeably. Furthermore, a topological continuity of speculative culture, design and fiction, and a broader 'speculative turn' in philosophy seems to have entered artistic research, in a methodological absorption by art criticism and the problematic notion of a 'speculative aesthetics'. It is an oddity that Speculative Design studiously avoids broader engagement with speculative philosophy despite the contemporaneous development, albeit that this arose para-academically, whereas speculative design has been internal to academic affairs. This continuity would affirm what novelist and futurist Bruce Sterling terms a movement in design fiction toward a fully speculative culture. (Dunne et.al. 2009) *Speculative Everything*, at the time the hypothesis of this research was forming, was the latest in a trilogy of 'design non-fiction' books charting the

evolution of ideas about industrial design by Anthony Dunne and Fiona Raby. The non-fiction works of the Exegesis, about a confluence of design and fiction map against argumentation in practice-led research and corresponding phases of research assessment in the UK. Given the shape-shifting of the poststructuralist sources from *Hertzian Tales* and the surprising turn toward the analytic and modal logic of possible worlds in *Speculative Everything*, exploring these parallels might develop a stronger position with respect to the ontological processes involved in artistic research. The discourse on Speculative Design, then, remains somewhat ambiguous with respect to its ontological commitments, has isolated itself from the rapid and occasionally reactionary and conservative critique of artistic research in architecture and design. It isolates itself too, from pertinent developments in adjacent speculative philosophical research and development. Despite the allusion to philosophical speculation in what can be considered the orthodox literature on the field, D&R's *exegesis*, in its application of concepts from the modal logic of fictional and possible worlds creates a tensile relation with respect to their previous philosophical commitments. A literature review of the discursive field of speculative design reveals a variety of philosophical positions and varying levels of commitment, and these will be surveyed subsequently. Next though, the thesis attends to its need to locate speculative design within the field of design research.

2.1.2 Design Research

Immediate existence requires the insertion of the future in the crannies of the present. Alfred North Whitehead (1967:191)

If the methods, processes and techniques at work in speculative design research can be separated, for current purposes alone, from its instrumentalisation by the technomic forces of acceleration (Land 2014); which is to say, if the need to connect design with the ontological ambition of this thesis can be suspended temporarily, then speculative design can be located within academic discourse on practice-based or artistic research. That

is, it can be considered as a genre or mode of design research amongst the shifting of definitions from 'practice-based' to 'artistic' research, as well as in relation to the histories of design research and design science.

The *Exegesis* of D&R exemplifies the speculative and the fictive in artistic research in design, and as such has been evidenced in academic research assessment. Indeed, speculative design artefacts and their *exegesis* are now contained within the archives of RAE 2008 (as *Hertzian Tales* and *Design Noir*) and to REF 2014 (as *Speculative Everything*). The thesis approaches this administrative archive as a register of art design and architectural research, broadly paralleling a career in practice-based research prior to this thesis (1998-), one which became increasingly curious about its own relation to the speculative and the fictive. It might appear strange to search such bureaucratic registers as these, to seek out the technical objects of speculative design in the abstracts of its design research narratives. However, in research on the artistic mode of practice-based research Spencer Roberts (2016) enlisted the research of Henk Borgdorff one of the recent commentators on practice-led research and illuminates this interest of the research. In Borgdorff's meta-commentary on research methodologies as artistic, such administrative registers of research assessment are identified as contested sites of the 'post-disciplinary' contexts of artistic research. Borgdorff notes:

Research is not conducted exclusively in homogeneous, uniformly structured universities, but is more localised in heterogeneous, diversified, often transitory configurations [...] (Borgdorff, 2012:89).

Borgdorff's perspective, and that of other researchers and commentators on practice-led and artistic research, particularly those voices arising in continental-European and Australian contexts (Roberts 2016), evidence the impact of Deleuze-Guattarian thought in the field of artistic research which this thesis extends para-academically into speculative design practice. Whilst the

philosophical root of Borgdorff's *Conflict of the Faculties* is closer to Latour than Deleuze, there is within it the suggestion of a modulatory power of Deleuze and his postmodern contemporaries. Borgdorff suggests this is embodied in research objects as an 'evocative power' or what the present thesis enlists as objectile:

each in their own way counterpose the evocative power of that which is embodied in art to the restricting nature of intellectual knowledge.
(2012:48).

The international discourse on artistic research Borgdorff represents here, values the materiality and contingency (Roberts 2016) of its practices in ways which resonate yet differ from Deleuze-Guattari's concepts mobilised by this thesis.

Outside of the field of Artistic Research, the educationalist Elizabeth St. Pierre (2014) describes an assumed incommensurability between methodologies, postmodernity, poststructuralism and posthumanism. St. Pierre's account offers critique of humanist methodologies in the social sciences, but is parallel with respect to artistic research in the ongoing debate about the function of evidence in practice-led and artist research. This is yet further complexified by speculative design and by its engagement with what Deleuze terms *the powers of the false* (*Cinema 2. 2000:126-155*) and the functioning of fictional evidence: the problems of speculative design are those of a science of imaginary solutions releasing the powers of false evidence.

Those antagonistic to artistic design in the ways articulated above, include Nigel Cross, Ken Friedman and Donald Norman and collectively these can represent the argument for a scientised view of design incorporating such notions as *evidence-based* design as the *designerly way of knowing* (Cross 1982). The epistemological frame of these design researchers approaches the attachment to critical thinking of D&R, disentangled from its commitment

to the pragmatism of Dewey (Dunne 1997:37, 59). The impact of Dunne's persistent rejection of critical *theory* for what he refers to as critical *thinking* (1997:9, 74; 2013:34-35) is understated in the *exegesis* and whilst the critical dimension of critical design has been approached as lacking (Bardzell 2013), it remains underdeveloped in other extant research. The reference to critical thinking, in the art school context of D&R's artistic research, might be symptomatic of a perspective shared by art theorist Paul Carter when he infers, in his book *Material Thinking*, that design is 'tongue-tied' and 'dumbed down' (Carter, 2004: xi). This and Rivka Oxman (2017) suggestion of an inversion of 'design thinking',⁹⁷ as *thinking design* and as thinking *differently*, Jamie Brassett (in Hales 2016) takes up in terms of the speculative philosophy of Alfred North Whitehead's notion of *inserting the future into the crannies of the present* and Isabelle Stengers' development of this Whiteheadian thought as *speculative*. This is something that has also been taken up in the citational mode of artistic research practiced by Thomson and Maglioni in ways that resonate with Speculative Design. For now, it will be sufficient to provide Thomson & Maglioni's citation of Isabelle Stengers in opening their exhibition *In Search of UIQ* by way of exemplification:⁹⁸

Here, then, is a first type of stitch or seam: when science-fiction authors extend, amplify or fabulate with a Hypothesis. When what they are exploring is the unexpected manner in which a small difference can produce enormous changes in the way things are and when they pursue and at the same time create the consequences of such a difference. It is then that science fiction becomes a historico-socio-cultural experiment. Like scientific experiments, it gives all due importance to the question "what if?", and to creating the kind of differences that can make a real difference. Like the sciences, science-fiction manages in this case to complicate things, take risks. The counterfactual hypotheses it forges are occasions for learning, whereby

⁹⁷ for a useful survey of design thinking see Kimbell (2011a, 2012).

⁹⁸ In Search Of UIQ, Th Showroom, London, 2015

the author creates the possibility of envisaging other ways of being "humans" in other worlds - ways that affect their bodies, feelings and thought, so that what we might regard as "normal" becomes material for investigation that the story puts into question. Isabelle Stengers, Disorientations⁹⁹

St Pierre argues 21st century research methodologies are repeating 20th century critiques of methodology, an embattled position with respect neo-positivism expressing this in somewhat science fictional terms, "research methods exist", she says, in a "time warp" (2014). Whilst this science fictionality is not methodological in the sense of the pataphysical concern of this thesis, it resonates with a post-disciplinarity endorsed by Borgdorff, one induced by successive paradigms of *posts-* and *-turns*. The 'speculative' turn of Bryant, Srnicek, and Harman (2011), as the most recent of these and one which the futurity of speculative design's criticality expresses other time warps of 20th and 21st century millennial events – the continuing presence of an enduring 19th century pataphysics being that event of most interest to this thesis.

The fictionality and *fictive evidence* of speculative design seems to square poorly with the neo-positivism of design studies, design thinking and design science approaches to pervasive design and innovation methods as *evidence-based*.¹⁰⁰ Where those advocates of such a scientised design might be in some sense antagonistic toward some of the fictive propositions and the artifacts of speculative design research, there are strong voices of support in the artistic and performative research positions emerging in the discourse. The explicit 'fictions' of speculative design seem to stand in opposition to the scientist 'evidence' based design methods, such as those presented as part of

⁹⁹ Cited in, Thomson & Maglioni (March 2015). It took forever to exist, In search of UIQ, The Showroom, London.

¹⁰⁰ including the turn to evidence-based approaches in the Research & Innovation Group of the RIBA and associated publication including Flora Samuel (2015) as much as in the design research literature including that collated by Brenda Laurel (2003) and the more performative research described in Fraser (2013).

the formal research methods training courses at the RCA.¹⁰¹ An examination of the longer history of the RCA in design science¹⁰² and design research studies is not the work of this thesis, but expresses a subagency to design as a science of the artificial – to cybernetics and systems theoretical approaches which might be taken to stand as epistemologically opposed to the methodological, ontological and performative orientation of those involved in ‘Deleuzian’ design studies¹⁰³ and those post-Deleuzian voices in artistic research aligned with speculative culture.

2.1.3 Design Research at the Royal College of Art

Design research at the RCA has its root in the cybernetics and systems theories of design research under the direction of L Bruce Archer. By the close of the 20th century these approaches were mutating under the ideas of Norbert Wiener to become entangled in various cybercultures including a fictioning and philosophising dimension. Baudrillard's *System of Objects* and Deleuze's notion of the *objectile* are, to an extent, products of this culture. A cybernetic influence can be traced to the Computer Related Design Department at the RCA founded in 1990, and before this to the architectural association. Design Interactions in its latter manifestation maintained, until 2016, continuity of interest in cybernetics and the artificial but transferred this interest to the new materialities of technoscience post-digital posthumanism and the ‘science-fictional’ futures of Design Fiction and an applied philosophy of possible worlds where a pragmatic commitment to making and prototyping begins to be transformed by formal research methods. Informed by systems theories, Design Interactions was also inflected by artistic research

¹⁰¹ I refer to those methods espoused by the Hamlyn School and the IDE and collected in the guidance Aldersey-Williams (1999).

¹⁰² L. Bruce Archer "The Structure of Design Processes: Ideal and Reality", in Bruce Archer's 1968 Doctoral Thesis. See also for a development of Archer's thoughts ARCHER, B. L., 2004. *Designerly activity and higher degrees*. Wellesbourne: DATA.

¹⁰³ Those contributors to Jamie Brassett and Betti Marenko's Deleuze and Design (2015) [including myself], begin to define the field of design philosophy of interest. Spencer Roberts' (2016) research on the performative aspects of artistic research is also pertinent to this philosophical interest.

methodologies outside of the academy, as much as these had been developing within the research departments of art and design as well as in architectural academic communities after the 1993 review of Higher Education.

Definitions of design research stem from Design Science research: Broadbent & Ward (1969) Archer (1968), Jones (1970; 1977). For each of these a cybernetic source becomes cross-fertilised and subsequently contested. A confusion arises out of this work in that speculative design interactions with science, with engineering or innovation and futures contexts compromise the potential for it to escape its own instrumentalisation. This confusion in part stems from an interchangeability of terms between the '*Design Science*' of Buckminster Fuller (1963) within which both a sense of the radical and visionary as well as a commitment to futurology is evident, and design as '*the Science of the Artificial*' of Herbert Simon (1969) under the thrall of which Archer et al. studied design process. Archer's analytical tradition of design as a science of the artificial was foundational to the design research at the Royal College of Art of the 1960s (Archer 1968)¹⁰⁴ and is still evident in its research methodologies courses¹⁰⁵ within which the tensile relation between cultural studies approaches to the object and evidence-based and user-centred design approaches provides sharp contrast. The interdisciplinarity of research methodologies within the arts and humanities as encountered prior to and during preparatory stages of this thesis have also foregrounded its speculative approaches. D&R subvert notions of evidence in favour of speculative fiction and reconfigure normative notions of the user as an object, deploying instead the modulatory power of the object as protagonist in the formation of new subjectivities. Despite Speculative Design's resistance to the rationality of the modern, the design science of the artificial surfaces quite strongly in D&R's

¹⁰⁴ For a discussion on Archer's contribution to the design research field and to the RCA specifically see Stephen Boyd Davis et al at the Design Research Society. Boyd Davis, S., Gristwood, S. (2016) on Archer's doctoral Thesis is representative.

¹⁰⁵ The archives of the RCA research methodologies course still included in 2015, for example on the side of the design of the artificial Aldersley-Williams et al (1999) User Research for Design.

practice between 2008-2013. Expressed in their interest in modal logic and turn to theories of possible and fictional worlds, aspects of implied 'rationality' are evidently still resisted and their work attests various object-citations, not least the pataphysical, the Dadaist, the chindogu, and the surreal object.

2.1.4 Contribution to Methodological Debate

Of the sometime confusing terminology of 'practice-based', 'practice-led' and 'artistic research' methodologies, the thesis tends toward the latter phrase 'artistic research' as it is in that transformation of the discourse that the Deleuzian influence becomes most evidenced. Speculative Design's practitioners have had surprisingly little to say about how speculative fictions have become a methodological concern to practice-based design research. The works discussed in this thesis have been formally subjected to the rigour of research adjudication and in their *exegesis* D&R entangle design research in the application of philosophical concepts. However, they do not engage with these other than illustratively and, as will be seen to be the case with the field when more broadly considered, this is rarely treated in a sustained way with philosophical depth. In definitions of practice-based research arising since at least Christopher Frayling's (1993) distinction between types of research (noting as he does so the notion of research in the charter of incorporation of the Royal College of Art in 1967), we might begin to tease apart some of the differences of approaches in speculative design considered as a mode of practice-based research complicit with the acceleration of change. Contribution in terms expressed by Sir Christopher Frayling (1993) *into, through and for* artistic research, is largely missing in the first and last of these categories. Instead researchers seem to have been interested to reflect internally and in increasingly self-referential ways, despite the public circulation of these ideas on the emergence of speculative design.

There is frequent contestation of the value of definitional treatments of Design outside of a design scientific frame. Vilém Flusser's etymological treatment

of the word 'Design', has been subject to criticism from advocates of the 'evidence-based' model of design research.¹⁰⁶ Flusser's *On the Word Design* (1995) associates design with artifice and deception, as well as with drawing, disegno, with the machine and device, each of which are of value to discourse on speculative design. 'Design Fiction' puts into confluence this sense of design in terms anathema to such proponents of design science as Friedman, Norman and Cross. The conjunction of Design and Fiction in Flusser's own practice is best exemplified by his collaboration with the artist Louis Bec *Vampyroteuthis Infernalis* (Flusser & Bec 2012) and in Bec's fabulatory epistemological cyber and crypto technozoosemiotics. (Bec 1997).¹⁰⁷ Flusser's etymological treatment on the origin of the word design informs tentative philosophical treatment of speculative design and is taken up further in this thesis's discussion of some implications of speculative philosophy for speculative design.

As Borgdorff et al. claim, artistic researchers themselves can be amongst the best advocates of their own positions, evidencing an ontological impact through the performance of their own research. This indeed holds under scrutiny of the abstracts submitted by artist and designers in support of artefacts submitted to REF2014. However, unlike advocates of a scientific rather than science fictional evidence-base for design, these voices are seldom heard speaking directly to the meta-debate on practice-based design research. This is to say, that unlike the early stage of definitional development of practice-led methodologies, characterised by the debate about the legitimacy of artistic practice as research - which saw the art-practitioner offer a voice to the practice-theory distinction, in communities of speculative designers, outside of their own 'contextualisations' of their own practice, the authorial voice of the speculative designer is quiet and only introspective. Only rarely do such speculative design practitioners contribute to the

¹⁰⁶ Even as recently as 2018, on the PhD Design discussion list.

¹⁰⁷ In the essay '*Speculative Hardware*' (Hales 2016) Flusser's definitional work 'on the word design' is therefore put into confluence for the first time with his 1966 essay *da Ficção*.

definitional debate on artistic research in design and architecture. Whilst there is evidence in REF2014 of an ongoing debate in design and of an increasing concern with practice-based research in architecture, this favours consideration of the 'design science' evidenced-based approaches to design analysis. Indeed, the contextualising by exegesis, this is to say, the need to provide a narrative account of the practice-based research portfolio submission to the administrative registers of research and to be subjected to its evaluative scrutiny, is in large part to make artistic research subservient to what might be described as the scientised position of a closing down of alternatives and the foreclosing of potential futures. The *exegesis* of D&R is just such a contextualisation of the speculative design research conducted by the Design Interactions group and its alumni of the RCA.

Speculative Design is amongst burgeoning modes of practice-based design research.¹⁰⁸ Dunne's practice-based research is significant as an exemplar of the 'relations of relations' or syzygies between design research artefacts and their written *exegesis*. Aside from what this explication of research reveals about what the thesis terms *pataphysical fictions*, what this explication contributes to discourse on speculative design artefacts in academic research contexts also holds potential significance. This squares poorly with actual contribution of academic-design practitioners to design philosophy - or to design studies. Indeed, much of the extant codification of this practice appears to be from the outside of the literature on design research or design studies and is instead given scholarly attention by researchers from cognitive science, computer science and Human Computer Interaction (Richmond & Khovanskaya 2018); innovation (NESTA 2016); policy making (Julier & Kimbell 2015) which, whilst serving to make the field diverse, at the same time make its authentic voice diffuse, instrumentalising and disciplining speculative design - and design writ more broadly - in evidence-based and scientific

¹⁰⁸ I use the term 'practice-based' here, whilst this has become subsumed by the notion of 'artistic research' I use the older term in this thesis where it avoids confusing my focus on design research with this 'artistic' terminology. This is though indicative of the tensile debate over the legitimacy of artistic and designerly methodologies.

terms. This is to say, the exegesis on objects of knowledge and the evidence of the speculative design exhibition as exposition is of interest for its missing contribution to the debate about 'doctorateness' in the practice-based PhD and the legitimacy of the speculative objectile as a fiction and object of knowledge captured in the formal research registers the Research Assessment Exercise (2008) and Research Excellence Framework (2014). Furthermore, the extent to which the pataphysical extends to histories and theories of design and the feedback circuitries between theory and practice of the discipline¹⁰⁹ is either elided by D&R or is under-represented. In understandings of the pataphysical production of disciplinary knowledges, a dynamic between speculative a theory-practice axis develops reflexively out of interaction between histories and theories of architecture and science fiction, as well as the theories of the profession and its disciplinary practice as rooted in philosophies of science and technology.

The field of (post)critical reflection on critical design as it has developed over the past 20 years in *exegesis* can be exemplified in the doctoral research of Candy (2010) *The Futures of Everyday Life: Politics and the Design of Experiential Scenarios*. Candy's thesis developed a futurological approach that is performative, expressed in experiential scenarios, interventionist practices developing from tactical media and immersive performance, and the making of 'artifacts from the future'. Candy proposes that futures are considered 'hyperdimensionally' through possibility spaces that "*flesh out worlds hitherto supposed unimaginable or unthinkable on a daily basis*" and develops from the theoretical perspective of a Rancierian "politics of aesthetics" to explore relations between three domains -- futures, design, and politics. A parallel pataphysically motivated doctoral study to this one, is Soren Rosenbak's *The Science of Imagining Solutions* (2018), supervised by DiSalvo which does not pursue the philosophical, science fictional and

¹⁰⁹ Schumacher (2011), from the side of the science of the artificial, argues for the sense in which the discipline of architecture depends on feedback circuits with its codification in theories.

architectural motivations of this thesis. Matt Malpass, an academic at Central St Martin's (2012) in his doctoral studies *Contextualising Critical Design: Towards a Taxonomy of Critical Practice in Product Design* developed a broadly taxonomic survey of critical design in product design which can be contrasted with the radical and more speculative orientation of masterclasses to students at Central St Martin's MA Innovation Management programme (Hales 2015 and 2016).

2.1.5 Critical Design and Design Fiction

If categories and taxonomies are important to Speculative Design, then Design Fiction more readily speaks to the category of applied R&D than to artistic research and speaks to a futurological tradition with a Californian ideological lineage (Barbrook and Cameron: 1995; Barbrook: 2007). By contrast D&R cite Chant (1989) and an 'American' ideological dimension of technology.¹¹⁰ Yet, even as R&D, Design Fiction squares poorly with 'problem-solving' for its commitment to fabulation, lack of emphasis in facts and for faking or, at best, offering only conjectural supposition and abstract speculation in lieu of the properly evidence-based methodologies of design science; these aspects instead reinforce an ontological commitment to problematisation and complexification. If the desire for evidence (of a science of the artificial) can be caricatured as antagonistic toward design fiction and the speculative mode of design, then it would likely seek to deny that fictions, or what have come to be termed the diegetic prototypes (Kirby 2011) of design fiction, properly offer or reveal knowledge, unless tied to the calculation of risk in futurological methods of anticipation underpinned by extrapolated data. Speculative Design, then, seems to question the insistence on problems of evidence, questions of probability and certainty by employing

¹¹⁰ Chant 1989 cited in Dunne 1997:31

the thought experiment materialised in 'diegetic' prop-making and an ethics of anticipation, fear uncertainty and doubt.¹¹¹

2.1.6 Design Research and the Mobility of Concepts

The term 'speculative' in design research amounts to a syzygy between John Dewey and Alfred North Whitehead. What D&R refer to as critical thinking, depends on the pragmatism of aesthetic experience of Dewey's ideas (1958) and, although D&R do not note this, also depends on the speculative thought of the British process philosopher, A.N Whitehead. Whitehead's speculative philosophy, a source for design science research as early as 1978¹¹² in architecture at the University of Cambridge, thus finds its way into post-futurological design thinking albeit in a mutated form lodged 'in the crannies of the future'.¹¹³

Concepts and practices are mobile (Bal 2002: 39-40), and yet it is an incongruous mobility with which pataphysical concepts veer into the *Exegesis* only to swerve out again.

... concepts are not fixed. They travel – between disciplines, between individual scholars, between historical periods and between geographically dispersed academic communities. Between disciplines, their meaning, reach and operational value differ [...] It is this changeability that becomes part of their usefulness for a new methodology that is neither stultifying and rigid nor arbitrary or 'sloppy' (Bal 2009).

¹¹¹ For an edited collection of essays exploring these themes in literature see Batsaki 2011. For fear uncertainty and doubt in design fiction, see Sterling's slider bar of disbelief (2013),

¹¹² The term speculative is introduced in design contexts in the 1970s (March, L.J. 1976) (Lave, Charles, A. and James G. March 1977) and has its root in the speculative thought of A.N. Whitehead and the process tradition in education these continue to be referenced by D&R via James, Dewey.

¹¹³ I am grateful to my colleague from the field of Deleuze Studies research, Dr. Jamie Brassett, for his first bringing Whitehead's phrase to my attention.

In *Speculative Everything*, there is no mention of the problems and solutions of pataphysics and earlier exegetical reference to continental postmodern theory-fictions are displaced by theories of fictional worlds, depending instead of a pataphysical realm upon the modal logic of an Anglo-American (analytical) postmodernism. Following Hassan's categorisation of pataphysics in *The Dismemberment of Orpheus: Towards a Postmodern Literature* (1971), it is a fugitive mobility of the pataphysical object that is an aspect of the philosophically postmodern (1971:269. see also 1971:48-51). This mobility was evident in the dependence of the *Exegesis* on Baudrillard's *System of Objects* (1996), David Porush's notion of *Cybernetic Fiction* (1985). Outside of the *exegesis* in Deleuze & Guattari's *Anti-Oedipus* (1977) pataphysical machines are present in the form of Michel Carrouges's 'Bachelor Machines' and syzygies of these figure in part three of the thesis. The pataphysical references of Dunne (1997) imply that critical design depicts the possible worlds of a 'science of imaginary technical solutions' and contrast with a caricature of D&R (2013) in which speculative design research constructs its fictional possible worlds (Doležel 1998) out of the emerging technologies of a science of the artificial.¹¹⁴ D&R's critical and design fictional engagement with the science of the artificial is, though, less instrumental in its futurological modelling of scenarios than its 'Californian' design fiction counterpart.¹¹⁵ It is rather more inflected by a kind of psychotropic relation to a scientific imaginary encountered in British surrealism, one that extends from the 1936 *International Surrealist Exhibition* to another associated with the science fictions at the birth of Pop Art, the '*This is Tomorrow*' exhibition¹¹⁶, in which some members of the Independent Group collaborated in with the architects Alison and Peter Smithson, held at Whitechapel Art Gallery in 1956 (Massey 1995). The relation suggested is expressed in the *Exegesis* in the speculative

¹¹⁴ (Simon 1996) There is thus in my binary caricature a sense of the cybernetic at each pole of the caricature that will be revisited in Part Three & Four.

¹¹⁵ The reference to the Californian Ideology here is to Barbrook (2007) and Barbrook and Cameron (1995) as well as to the Hollywood source of the Diegetic prototype and the definitional work on design fiction of Julian Bleeker.

¹¹⁶ I am particularly appreciative of the research of Barry Curtis on the Independent Group and his essay *Tomorrow* (2013).

fiction of J.G. Ballard who attended the latter and was influenced, though not straightforwardly, by the former.¹¹⁷ The reference to British surrealism demonstrates an influence of Jarry in Britain predating the establishment of the *Collège de 'Pataphysique* of postwar neo-avantgardes.¹¹⁸

The surrealist influence of SF on pop culture is more than adequately handled by Gavin Parkinson in *Surrealism, Science Fiction and Comics* (2015) and *Futures of Surrealism* (2015). In Parkinson's selective quotation of an interview '*Speculative Illustrations: Eduardo Paolozzi in Conversation with J.G. Ballard and Frank Whitford*' (1971) he misses the significance to Ballard of the direct reference to Jarry, which, in the reading of this thesis, leads Parkinson to underplay the pataphysical affiliation of Michel Carrouges, whose interest in the machine is possessed of a political ambivalence which would undermine Parkinson's commitment to relations between surrealism and communism.¹¹⁹

Both the historical dimension of British Surrealism suggested and the distinction between a Californian and British subgenre of design fiction, are both pataphysical and ambiguous. What is visible in D&R's *Exegesis* and differentiates these strains, is partially a result of D&R's design fictional engagement with the field of technoscience, especially that of synthetic biology a field of engineering whose express aim is to solve problems of the artificial. This, at root level, is aligned¹²⁰ with Herbert Simon's Design in *The*

¹¹⁷ The argument developed in this thesis departs from the thorough treatment of surrealism on science fiction and popular culture in Parkinson. For a fuller account of Surrealism and Communism see Short 2003.

¹¹⁸ A further useful source for the impact of British surrealism is Matthew (1964) who notes that at a lecture for the London International Surrealist Exhibition (1936) Eluard read extracts from Jarry in French and English Translation and Simon Watson Taylor, translator of Jarry's plays and novels and as early as 1946. '*Four Scenes from UBU ROI*' were also included in translation, in Watson Taylor's *Free Unions Libres*.

¹¹⁹ The full text of this interview is available online at ballardian.com

¹²⁰ The literature on technoscience that has been of value to the thesis includes the discussion in Jamison (2012). Speculative Design in this context can be termed what Mikael Hård and Andrew Jamison (2005), call "cultural appropriation" of science and technology, which they define as "the discursive, institutional, and daily practices through which technology and science are given human meaning".

Science of The Artificial (1996) geared toward Simon's definition of Design as the 'transformation of existing situations into preferred ones' (1996:111). This also seems to align with D&R's commitment to the futures cone of 'preference' and of their value fictions which introduce a clinamen or swerve of preferable futures within the flow of time/matter expressed in the futures cone and other diagrams of speculative culture (2013:5).

The characterization of a science of the artificial maps, in admittedly nonlinear ways, onto the terms of practice-based research and in terms which might be antagonistic to the Deleuzian and ontological approach of Thesis. When the attempt is made to locate D&R's practice based research within the discourse of this debate a tensile relation is revealed - a tension that Barbara Bolt (2004), in her article *Exegesis and the Shock of the New* describes as "ambiguous to a pre-existing avant-garde tradition that valorises originality and the 'shock of the new'."

Furthermore, this tension expresses itself philosophically as a relation between an *analytic* design science community, figured as the latter of the two caricatures of the debate as the science of the artificial, and represented by texts such as Donald Norman's *The Design of Everyday Things*¹²¹ (1998) or Victor Margolin's *Politics of the Artificial* (2002) and, on the other hand, a processual philosophical tradition informing a performative artistic research community as might be figured, though in complicated ways, as the former caricature of design research in this debate and the science of imaginary solutions.

2.1.7 Speculative Design Research in RAE 2008 & REF 2014

The research groups surrounding D&R at the RCA and Neil Spiller at the Bartlett/ Greenwich together with David Greene's post-Archigram research

¹²¹ The reference is to the cover illustration of Norman's *The Design of Everyday things* which depicts a teapot from pataphysician Jaques Carelman's catalogue *D'Objets Introuvables*.

project L.A.W.u.N are the only direct references to speculative design submitted to the rigours of scrutiny under RAE 2008 and REF 2014. Greene's and Spiller's projects are therefore important comparative examples of the state of speculative design research at that time. A literature review developed from the Exegesis in relation to the RAE/REF submissions of Spiller and Greene provides a preliminary exemplar of the nomadic distribution and composition of the research plane as this will be encountered in subsequent *Syzygies*. This initial review is sufficient to establish the research hypothesis and questions, as well as to scope what is at stake in the research. Unlike studies on Speculative Design available at the time writing, this thesis is less focussed on the artefacts and exhibited works than in how these are philosophically and pataphysically framed. Indeed, it is rather more concerned with providing additional reference and exemplar, though Dunne's own framing is wide-ranging and is itself quite nomadic. The interest in extending this nomadic approach is for what more can be said about transversal relations between philosophy and these sets of speculative practices.

2.1.8 David Greene: L.A.W.u.N & the Pleasure Gardens of the New Wave

British architect, and former member of the radical architecture group Archigram, David Greene's project L.A.W.u.N (Greene RAE 2008, RA2 - H 30 output 3) was presented as a RAE2008 submission by the University of Westminster. It was specifically named as a 'speculative design' project and is aligned with design fiction and critical design in its suggestion that "new technologies determine new possibilities" as well as betraying a certain technological determinism:

The Invisible University is a live research project that seeks to gain knowledge and understanding of an architecture that is evolving from a culture whose dominant raw materials exist outside the visible spectrum: mobile and wire-free technology. The statement that

changes in architecture are significantly driven by changes in technology is widely acknowledged. New technologies determine new possibilities; from rethinking a design approach or programmatic organisation to the imagining of possible applications and methods of construction.

Locally Available World Unseen Network (LAWUN), the Bottery, Logplug and Rokplug are deserving of inclusion¹²² in an expanded sourcebook of architectural objects with which to supplant the *exegesis*. Greene's long-sustained practice-based research spanning from his work with Archigram and collated in *LAWUN #19: Situated Technologies and the Picturesque* (2012) serves to foreground the importance of architecture fictions to the dematerialised objects of the *Exegesis* itself. The architecture fictions of speculative design, both in terms of an expanded visual source and the marginal operation of this as a field of design research, also serve to highlight that the science of imaginary solutions is what Deleuze & Guattari would term nomadic (1996:361-74), as well as leading to a suggestion of this thesis that design fiction can be considered what Deleuze & Guattari term a minor literature, a subgenre of design science. But a question arises: is this a science of the artificial or one of imaginary solutions? Greene's motive, like those of Archigram of which he was a founding member, are 'whimsical' and literary. As noted by Archigram's Peter Cook (2016) this whimsical and literary subtext provides a sense of intertextuality with postmodern literature and the Invisible University projects developed by Greene. "*Archigram was 40 per cent American Dream, 30 per cent Meccano, and 30 per cent sheer weirdness.*" (2016: 162) Cook describes David Greene as an avid reader, one 'immersed in issues' of the American literary anthology, *Evergreen Review*¹²³, a primary source of pataphysical influence in anglo-american contexts of the early 1960s.

¹²² A comprehensively illustrated compendium cataloguing such a sourcebook is outside of the scope of this thesis and its philosophical motivation. The illustrations it depicts might be considered a part of such a future project.

¹²³ Shattuck, R. & Taylor, S. W. (Eds.). (1960)

Whilst any attempt at completeness would necessarily fail, science fictional influences in design have been traced to those of the Independent Group and provide a useful vector out to Lawrence Alloway's interest in SF explored by Rebecca Peabody in her essay on *Alloway and Science Fiction*.¹²⁴ A related vector proposed by this thesis as a counter-lineage for Speculative Design, is the Independent Group's influence in an overlapping of design and the British New Wave of science fiction, of the artist Eduardo Paolozzi. Paolozzi was a friend of Michael Moorcock, whose own *Pleasure Garden of Filipe Sagittarius* (New Worlds # 154, Sept 1965) expresses a similar concern as David Greene's peculiarly British science fictional picturesque. Moorcock was editor of New Worlds magazine (1968-1978) and J.G Ballard, the writer and editor of *Ambit* (1965-1988), and Paolozzi illustrated issues of these magazines with what can retrospectively be described as 'design fictions'.¹²⁵

David Brittain has studied the relations between Paolozzi's collage, visual essays and fragments of novels in his artworks for Moorcock's New Worlds and Ballard's *Ambit* 1967-1980 (Brittain 2013, 2009) and the doctoral thesis of Carol Huston (2013) references the mutual interest in technology of Ballard and Paolozzi. Huston cites Moorcock as collectivising this interest, held by each of them, in "*the last gasp of modernism*"¹²⁶ and the New Wave was evidently in the grip of the nascent cybernetic postmodernity of the late Cold War.

Whilst this ideological commitment is well documented, cultural studies of the coldwar (Gerovitch 2002; Bennett 2017; Schofield 2016) continue to be a productive site of critical attention. This commitment is a point to which we will need to return for what this can tell us about pataphysics before concluding.

¹²⁴ Peabody, Rebecca (2015).

¹²⁵ For example, "THINGS: A Novel." *Ambit*, no. 41, 1969, pp. 25–32. Paolozzi, Eduardo; and "The Unfilmed Scripts of Eduardo Paolozzi." *Ambit*, no. 41, 1969, pp. 25–32. Paolozzi, Eduardo.

¹²⁶ Moorcock cited in Huston, C. 2013:11.

Although what is commonly referenced as the motive legacies of a surrealist and communist resistance to cybernetics. Extant literature, exemplified by Parkinson (2015) underplays the pataphysical research of Carrouges in this respect whose interest in the machine extends beyond his oft cited Bachelor Machines¹²⁷ essay and, it is claimed by this thesis, reflects an ambivalence with respect to pataphysicians and technology which inform the British New Wave in SF, and a more anarchistic, pataphysical and ambivalent relation to the machine is claimed by this thesis.

It is to be noted that this sense of motive, develops from a technical sense of a media theory that Deleuze will term 'signaletic', and resonates with an aesthetico-conceptual ambivalence toward the acceleration of the technical object evident in British speculative design practice already observed of the Independent Group and Archigram (Curtis 2004:51 and 2002:60) and that this thesis further associates with a political ambivalence of the exegesis of D&R. This is not to suggest a disengagement with the political theories or praxis of a milieu, for example in Greene's notes to *Panic Dorchester* there is at least familiarity with the negative thinking of Baudrillard's hyperreality, but a more clearly declared affinity toward Marshall McLuhan of Archigram and the Independent Group is well documented.¹²⁸ Simon Sadler also footnotes a 'libertarian' implication for Archigram and hence an aesthetico-conceptual aspect of speculative design will be taken up again as politically ambivalent subsequently. Sadler's reference is to a "*libertarian canon for the Architectural Association*" provided by Fred Scott in his essay *Myths, Misses and Mr. Architecture*¹²⁹ an attachment which Greene's notes acknowledge are an affirmation of the 'rapid expansion of the capitalist means of production' yet seems to reject in interview with Kester Rattenbury (2010), the assimilation of

¹²⁷ Our principal interest is with Deleuze and Guattari's citation in *Anti-Oedipus* (2000:18)

¹²⁸ In Sadler (2005:137; 217fn 247) Greene reflects on his affinity with 'beat' literature and Kosuth's conceptualism which is in discord with Deleuze and Guattari's anti-conceptualism (1996: pp10;99). In McLuhan (1987:217) writing shortly after [The Mechanical Bride 1951] "is really a new form of science fiction with ads and comics cast as characters. Since my object is to show the community in action, it can indeed be regarded as a new kind of novel."

¹²⁹ Cited by Sadler 2005:187; 217n.245.

a pop sensibility and an ambivalent adoption of advancing technology, an accelerationism with which Berardi takes issue and informs the argument of this thesis. This libertarianism suggested by Scott is somehow tinged with a leftism, one echoing that of Reyner Banham:

*...we had this American leaning and yet most of us are in some way Left-oriented, even protest-oriented...it gives us a curious set of divided loyalties. We dig Pop, which is acceptance culture, capitalistic, and yet in our formal politics...most of us belong very firmly on the other side.*¹³⁰

Paolozzi's speculative illustration¹³¹ and the contributions of other members of the Independent Group are notably absent from the *Exegesis*. In the expanded view developed in this thesis retrospective application of 'design fictionality' is expressed in *'Things'. A Novel* (Paolozzi 1969) and suggests comparison with the material culture captured in *The Unfilmed Script Eduardo Paolozzi* (Paolozzi, 1972) and Thomson and Maglioni's unmaking of Guattari's unmade science fiction film, as we will subsequently develop. Fortunately, the centrality of Ballard's fiction to the *Exegesis* and a citation of the impact of the exhibition *Cold War Modern* (Crowley & Pavitt 2008) create crucial nodes to a relation of relations for these sources in the *Exegesis* (2013:6). To these Colin Greenland's *The Entropy Exhibition* (1983) provides a supplemental cultural account of intertwined social aspects of this convergence of visual and literary histories of New Wave writers. David Britain's *Eduardo Paolozzi at Ambient* (2013) and *New Worlds* (2009), and Simon Sellars' *Applied Ballardianism* (2018) foreground a continued relevance. The technocultural histories of Pickering (2010) and an earlier one of Latil (1956) illuminate a cybernetic clinamen influencing post-war pataphysics and the influence of cybernetics, communication media and information theory on Archigram and the

¹³⁰ Banham, Reyner 1981:85-89.

¹³¹ Also the title of an interview between Paolozzi and Ballard (Whitford: 1971).

Independent Group and is a common thread between Spiller, Greene and D&R.

There is a phylogenetic relation between Spiller's hypermodernist surrealism, Greene's coldwar pastoral electronics and the radical architecture, objectile estrangement and pleasure gardens one might associate with the New Wave of SF and Jarry's decadent and symbolist island voyages. Each of these designers independently develop pataphysical association of architecture fiction, observed to similarly arise in the *Exegesis* on speculative design.

2.1.9 Neil Spiller's Communicating Vessels and its science fictional influences

Spiller's Communicating Vessels and Other Drawn works¹³² are described in his REF2014 narrative as follows:

Output 5 UoA 16, Communicating Vessels 2008-2013

The work seeks to explore and illustrate the far-reaching effects on architecture of biotechnology, virtuality and nanotechnology, and particularly the old dichotomy between architecture and landscape. Technology is allowing architects to mix and augment real objects with virtual ones, to question the inertness of materials and, vicariously, architecture, to link and network electronically all manner of spaces and scales of phenomena together, create reflexive spatial relationships between them and blend the organic and the inorganic. Simultaneously, the aged doctrines of Modernism are being questioned: decoration and Baroque distortion are respectable again. The "everyday" has proved a fecund breeding ground for new ideas. Narrative is also finding its way into much architectural work. Above all architecture's relationship with biotechnology is evolving fast.

¹³² The fullest account of Spillers Communicating Vessels project is yet to be published.

The project relooks at traditional paradigms and elements of garden design such as the gazebo, the garden shed, the walled garden, the bird bath, entrance gates, riverside seats, love seats, vistas, sculptures, fountains, topiary and outside grown rooms amongst many other objects and spaces. It redesigns them, electronically connects them, explores their virtual and actual materiality, their cultural and mnemonic importance and reassesses them in the wake of the impact of advanced technology on the protocols of contemporary architectural design in the twenty-first century.

Output 2, UoA 16 Architecture Drawing: Grasping for the Fifth Dimension Portfolio.

The research involves creating drawn architectural speculations, that often investigate cyberspace / virtuality, biotechnology, nanotechnology, augmented and mixed realities and reflexive architectures. The architectural drawing is not a passive, one way architectural occupation but a symbiotic relationship where the drawer can learn from the drawing and the act of making a drawing can inform the overall concept, idea and scope of architecture by the act of re-reading, post rationalisation and chance. Outputs include drawings and writings.

Spiller's academic colleague Nic Clear, in Rob Latham's *Oxford Handbook of Science Fiction* (2014:277-290) defines architecture as science fiction, drawing extensively from Spiller's own reflections on personal interest in SF. An account of the science fictions expressed in Spiller's practice, though, is most properly contextualised in Spiller's own book *Digital Dreams* (1998). As is the case with D&R, Spiller's philosophical sources are ambiguous, eclectic and philosophically inconsistent with the Deleuzian emphasis of the present thesis. Spiller's philosophical point of reference, as was Dunne's in the mid

1990s, is vaguely Baudrillardian and hence implicitly pataphysical.¹³³ Whilst explicitly science fictional in its reference, Spiller's influences are also somewhat analytic and scientific, oriented toward the cognitive sciences. This orientation toward cybernetics is in the 'conversational' mode of British cybernetician Gordon Pask (1969), a lecturer at the Architecture Association and contributor to the influential exhibition *Cybernetic Serendipity*.¹³⁴

Spiller's cybernetics, though, are contaminated by the cyberdelic, cyberpunk fiction and that SF sub-genre's own influences also arising from the counter-futures of Stewart Brand and the *Whole Earth Catalogue*.¹³⁵ Spiller's influences are expressed, as well, by an intersection with surrealism and the technofuturism of Kevin Kelly and Ray Kurzweil, as well as Daniel Dennett's theories of consciousness. Spiller associates these with topological 'memory palaces' after Frances Yates fusing these with the memetic technologies of Dawkins and Leary.¹³⁶

Spiller's cognitive-scientific philosophical reading pushes at the outer edges of technical mentalities in its concern with consciousness altering technologies and is exemplified in Spiller's influence by the British novelists Michael Moorcock and Jeff Noon. Moorcock's '*End of Time*' sequence, a part of his 'Multiverse' incorporating an incarnation of Jerry Cornelius, a fictional character Moorcock refers, in ways reminiscent of Faustroll, as something of a 'fictional technique'.¹³⁷ Moorcock's multiverse and especially the Cornelius 'technique' has been described by Linda Trent, as hyperstitional:¹³⁸

¹³³ it is to be noted that at this stage in the development of Spiller's research narrative on his practice direct pataphysical reference is absent, though likely latent, in his published account.

¹³⁴ (Reichardt 1968)

¹³⁵ See for example Leary et al. (1994), and Turner (2010); RU Sirius editorial of *Mondo* 2000 and the later *OMNI* magazine in which traces of the cyberdelic are also evident.

¹³⁶ For example, Hauser's (2003) postmodern analysis of the virtual geographies of William Gibson's *Cyberspace*, Pat Cadigan's *Mindscapes* and Neal Stephenson's *Metaverse*. Also of note in this respect is the fusing of the topological and topological of Paul Virilio's interest in memory palaces in *The Vision Machine* (Virilio, 1994).

¹³⁷ Scroggins 2016: 47

¹³⁸ After the termination of the CCRU programme at Warwick, Hyperstition was developed as a group blog and at the point of this reference to Moorcock as a potential source of hyperstitional writing membership included Nick Land, Anna Greenspan, Suzanne Livingston

Moorcock is another interesting case [...]: collective authorship, and also the implexing of real world figures and situations into the fictional world (and conversely, the incursion of the fictional world into the world of the actual (Trent 2004).

Hyperstition is a theory-fictional neologism coined by former members of the Cybernetic Culture Research Unit (CCRU writings 1997-2003). Delphi Carstens (2010) on the website of Mer Liquify of Orphan Drift, suggests that hyperstitions are “Akin to neo-Darwinist Richard Dawkins’ concept of memes, hyperstitions work at the deeper evolutionary level of social organisation in that they influence the course taken by cultural evolution. Unlike memes, however, hyperstitions describe a specific category of ideas [...] hyperstition describes both the effects and the mechanisms of apocalyptic postmodern ‘phase out’ or ‘meltdown’ culture.” Mark Fisher together with Reza Negarestani, during the writing of his Lovecraftian Gulf Futurist theory-fiction *Cyclonopedia* (2008) and others who came to be associated with the exhumation of ideas, the 'divulgation' of secrets of the CCRU (Parisi 2016) in the first decade of the new millennium. Which is to say, that like speculative design, hyperstition is an expression of the sense in which fictions become real and of pre- and post- millennial tensions coincident with the de-occultation of pataphysics. Hyperstition is foremost amongst the chronoclastic forces of the future 'after the future' and incorporates both a sense of 'hype' and a lovecraftian mythographic aspect, that of Capital as singularity (Carstens 2010) as an affirmational accelerationism, one which is challenged by Franco 'Bifo' Berardi (2013).¹³⁹

(CCRU: Cybernetic Culture Research Unit) Mark Fisher (K-punk. CCRU), Steven Goodman (Hyperdub, CCRU), Linda Trent (Miskatonic Virtual University), Reza Negarestani (Cold Me).

¹³⁹ Berardi, Franco “Bifo”. *Accelerationism Questioned from the Point of View of the Body*. eflux Journal #46 2013. Accessed August 2018, <https://www.e-flux.com/journal/46/60080/accelerationism-questioned-from-the-point-of-view-of-the-body/>

Moorcock is a fierce opponent of Lovecraftian politics and his writings have a proximity to the British psychogeography of Iain Sinclair and Alan Moore. He describes the adoption of the Cornelius technique by the British New Wave of Science Fiction under Moorcock's editorship of *New Worlds* magazine and its exploration of modernist collage and the Burroughsian cut-up. The hyperstitional prospect implicit to Moorcock's multiverse of possible worlds, then, offers a potential political corrective to an hyperstition tainted by a Lovecraftian or 'mad-black-deleuzian' (Noys 2014) and its 'malign' accelerationist discourse. What Moorcock described as a technique can be termed a 'Cornelius experiment' named after the term given by Deleuze and Guattari to provide a conceptual hinge - to a Burroughs experiment - around which science fictional, pop cultural and design historical references of this thesis pivot. What is clear from the references and writings over the post-cyberpunk period, immediately preceding the end of the twentieth century, is that Spiller's pataphysical influences were yet to properly surface other than as latent to Baudrillard's theory fictions and are otherwise subsumed in Spiller's surrealist and alchemical practice. Spiller's short essay *Fictional Influences* (2013) is included in the special issue of the academic peer reviewed *Journal Digital Creativity on Design Fiction* (Hales 2013) spanning science fictional, pataphysical and renaissance second worlds. Rather than discuss Spiller's project directly, instead, a fecund syzygy of prior fictional influences can be constructed from his *Digital Dreams*.

Spiller's Digital Dreams

Spiller's Science Fictional references stand somewhat in contrast to D&R's. Spiller's are more admitting of SF cultures, still in a lineage of new wave and postmodern science fiction yet also evidencing an interest in British Hard SF shared with Clear (2013). This is illustrated in Clear's project *The Gold Mine* (2014) as well as the soft Speculative SF concern of the *New Worlds* writers and the postmodern extension of its decadent and symbolist influence, for example, in the speculative fiction of Jeff Noon's *Vurt* (1993).

Spiller's sources perceptible in his *Visionary Architecture* (2006) and *Cyber-Reader* (2002), like D&R's exegesis, are mosaic in formation mining complex legacies of British surrealism, as does Greene though like D&R less explicitly, and this serves to provide a micro-syzygy of relations. The intention here is to construct a provisional encounter with science fictional sources inasmuch that these arise from the literature. The philosophical eclecticism of the Exegesis on Speculative Design is mirrored in Spiller's *Digital Dreams*. In this respect Spiller's literary-philosophical position at first refracts Dunne's analytical progression and is diffracted¹⁴⁰ by a Baudrillardian media theory endemic to the cyberculture of the late 1990s expressing familiar misunderstandings of the Deleuzian virtual for a 'californian ideology' of a 'technical virtual' and literary cyberspace which Barbrook and Cameron chide in their phrase the "*DeleuzoGuattarians are coming*" (1995) parodying an appropriation of philosophical concepts and anticipating critiques of the acceleration of capitalism implied by *Anti-Oedipus* (Deleuze and Guattari 1977:239-40). The political travesty of accelerationism is taken up in Benjamin Noys in *Malign Velocities* (2014). The inclusion of Mark Fisher's *Capitalist Realism* (2009) in the *Exegesis*, entangles it in the critique and complicities of post-millennial accelerationism and hyperstition, and bears comparison with extrapolations of the free-market in SF dystopias that the *Exegesis* takes enjoyment from.¹⁴¹ Pertinent to the *Syzygies* on pataphysics and Science fiction is the relation between cyberpunk SF literature and continental philosophy foregrounded in *Digital Dreams*. Peculiar to the time of its publication, is the adoption of philosophers as producers of cyberpunk theory-fictions (Bukatmen 1993; McCaffrey 1991; Stivale 1998, Gibson & Sterling (in Fischlin 1992) in ways that are more subdued in the *Exegesis*, though still present. The thesis returns to this point in its *Syzygies* but can be underscored in the following extract from an interview with Bruce Sterling and William Gibson for *Science Fiction Studies*:

¹⁴⁰ for the deployment of diffraction as critical term see Barad (2003).

¹⁴¹ Significant reference to Dunne & Raby's preference to partake of only 'some science fiction' within the *Exegesis* includes in dystopian guise Margaret Atwood's *Oryx and Crake* (2009) well as the televisual SF of Charlie Brooker's *Black Mirror* (2011-).

VH: Do you want to say anything about Jean Baudrillard?

BS: I think he's a great science-fiction writer.

WG: Yeah, he's a cool science-fiction writer.

*VH: And I noticed in an essay that Bruce published in *Monad* that he referred to Baudrillard as such.*

*BS: I read Baudrillard. I quite like Baudrillard's *America*; the other stuff I can take or leave.*

WG: We like Arthur Kroker. We're big Arthur Kroker fans.

BS: Arthur Kroker is a happening dude. (Fischlin 1992)¹⁴²

¹⁴² The reference to Kroker in the above, is undoubtedly to Arthur and Marilouise Kroker's *ctheory.net* an influential Canadian node in international netculture of writing on technology and culture of the 1990s and notable to this thesis for its publishing of two essays by Baudrillard: *Pataphysics of the Year 2000* (1993); and *Pataphysics* (2007) which will be attended to later in this thesis.

2.2.0 A PROVISIONAL SYZYGY OF SCIENCE FICTIONAL INFLUENCES

The discourse on science fiction in cultural studies is only marginally referenced in the *Exegesis* and one which this thesis will therefore partially swerve around. If it is possible to talk of design research in the wild, a literature review of science fictional influence in speculative design quickly grows as a philosophical thicket of para-academic and parafictional practices over the course of writing this thesis. Whilst I make no claim to an anthropological or ethnographic approach the thesis is written from a position 'in the thick of it all' and from within what Ken Hollings names *the Bright Labyrinth* (2014). However, of this literature Jameson's *Archaeologies of the Future* (2007) has currency within Julian Bleecker's essay on Design Fiction (2009) as well as in the *Exegesis* of D&R. Of the additional material in cultural studies of relevance to scholars of Science Fiction Studies, to which field Baudrillard contributed *Two Essays* (1991) on Jarry and British speculative fiction writer J.G. Ballard has direct bearing on the thesis. Raymond Williams's *Utopia and Science Fiction* (1978) is a well noted analysis of utopian sources, though not one available through the *Exegesis*.

Rather than with the dystopian themes of the *Exegesis*, the thesis is more interested in the motivation of the utopian survey of Ruyer and the utopian communities of Fourierism where the pataphysical dimension is most clearly discernible in its libertarian interpretation (Bey 1991). Whilst departing from the dystopianism of the *Exegesis*, in which only an ironic or satirical stance separates it from the apocalyptic commitment of hyperstitional accelerationism, this also serves to reinforce an SF relation to libertarianism.¹⁴³ Instead the thesis chooses to follow Deleuze and Guattari's interest in utopias of machines,¹⁴⁴ and to extend these ideas about machines,

¹⁴³ for a journalistic review of the politics of SF in relation libertarian ideals see <https://mises.org/library/libertarianism-and-science-fiction-whats-connection> (accessed August 2018) which notes the novels of AE van Vogt as well as those of Ayn Rand.

¹⁴⁴ the reference to Butler's machines in *Erewhon* in *Anti-Oedipus* 2000:284-5 and in Deleuze's *Difference and Repetition* 2004: xix; 95, 157, 356, 380.

in reaching for its conclusion in the political philosophy of technology underpinning the critical dimension of Dunne's early Exegesis.

Although well documented by Kellner (2007), Bukatman (1993) and postmodern literature more broadly (Hassan 1971; McCaffrey 1991) and the articles of *Science Fiction Studies*, 'science fiction' has continued to be a source of scholarly reflection after the postmodern turn.¹⁴⁵ The inclusion of pataphysical sources in SF collections by Merril (1966), Moorcock (1968) and Vandermeer (2016) as well as those implicitly pataphysical texts in an explicit intertwining of theory-fiction, *Semiotext(e) 14 SF* (1989), provides the scope of the mobility and longevity of Jarry's 'discoveries'. These demonstrate a persistence of conceptual impact of pataphysical influence operative within speculative culture. At the time of writing this thesis the discourse on cyberspace as an aspect of speculative culture seems both anachronism and commonplace. As the literature is extensive, the most pertinent to note are Spiller (2002); McCaffrey (2007) and to see the circulation of cybercultural ideas in cultural mutation for e.g. Afrofuturism, see Phillips (2015); Sci-Fi paganism Sames (2014); Sutherland's *Exploit.zzxjoanw.Gen* (2014); and for the progressive continuities from theory-fiction of science fiction to the new weird see Thacker (2001; 2011; 2015a; 2015b) the collating of writings of the CCRU (2017) and the posthumous publication of Mark Fisher's writings (2018). Furthermore, whilst speculative design is not of concern to the authors of counter-futurological cultural research, this might be given some address in constructing a connectivity between speculative culture and the literature of Ross (1991) Hollings (2008, 2016); Dery (1996); Davies (2006;1998) and Barbrook (2007).

Each of the preceding provide antidote to futurological speculation referenced directly by D&R, arising after the RAND corporation as a set of cultural techniques summarised in Bell (2003;2004). The futures scenario as a

¹⁴⁵ Jameson (2007), Gomel (2010); Latham (2014, 2017) Luckhurst (2005) and see <https://www.depauw.edu/sfs/index.htm>

thought experiment is a central methodological concern to both D&R as well as to Spiller's *Communicating Vessels* and Greene's *LAWUN* with each author approaching the scenario form as possible world and architecture fiction. D&R's source for their interest in the scenario of cold war futurology amount to a self-identification of the design studio (2013:172) as a kind of think tank (Dickson: 1971). Whilst the literature on futures studies is extensive, of specific interest to this research has been the early contribution by John McHale, former neo-avant-garde Independent Group member and collaborator with Buckminster Fuller. McHale's *Future of the Future* (1969) as well as his essay 'Time and the Future Sense' (1978) are foundational to the developing discipline of cold war futurology.¹⁴⁶

For general studies Bell's two volume *Foundations of Futures Studies* (1993) provides a useful history of the discipline and Schwartz's *The Art of the Long View* (1998) presents a view on scenario planning from the 1990s which is helpful in the questions of uncertainty in a post-futurological context expressed by D&R's interest in scenario planning of post-cybernetic R&D labs. This influence of these laboratories and their fictional counterparts adds to a sense of the political aesthetics of cold war modernity manifesting in speculative design and evidence in design fictional artefacts a symptomatology in ways which Deleuze & Guattari suggest of literature as symptomatology of a culture in their schizoanalysis. (Bogue 2003; Buchanan & Marks 2000).

Interestingly, the Independent Group's John McHale (1969) was amongst those developing then nascent futures studies and methodologies central to cold war scenario games and the thought experiment in his work with

¹⁴⁶ McHale's contribution is at the intersection of design and futurological thought exemplified in his editorials *Toward the Future for Design Quarterly*, *AD's 2000+ Architectural Design* 1967; 'The Future of the Future', *Architectural Design*, May 1967, pp65-6; the Marginalia column, *Architectural Review*, May 1957, p291.

Buckminster Fuller¹⁴⁷ in sets of relations including the time-binding of Korzybski's General Semantics (1958) and a non-Aristotelian logic of science fiction¹⁴⁸. The influence of Marshall McLuhan on the Independent Group as well as the radical architecture of Archigram¹⁴⁹ might normally be included alongside Buckminster Fuller, however Fuller is excluded from the exegesis by D&R for being too "technological and rational." (2013:164). This rationality might be countered though, as does Cavell in *McLuhan in Space: A Cultural geography* (2002) wherein Fuller, Leary, Rauschenberg and the Beatles "are all exploring and revealing mosaic patterns, new models for an alternative culture' (ibid:145) Cavell is citing the artist Michael Morris on an exhibition of Canadian pataphysicist bpNichol, in which slides of work by Lewis Carroll, Jarry, Duchamp and others are included in a clearly alternative 'rationality' associated with Fuller, that might therefore express in the *Exegesis* something of a bifurcation in the lineage of visionary modes between industrial design and architecture.

The *Exegesis* on speculative design of D&R depends upon this kind of science- and architectural- fictionality that this thesis terms *pataphysical fictions*. These architectural and science fictions involve the speculative designer in something of a paradox, a kind of looking back and looking forward whilst looking both askance and sideways. An expression of this is *Exegetical* disavowal of Cold War futurology and simultaneous embracing of its techniques in an aesthetic of Cold War modernism. A political aesthetic in which the potential of retrieving the possibly lost and virtual futures of futurologists and political scientists, or of actualising the possibly unthinkable, becomes a kind of groundless thought experiment: a time-anomaly of the contemporary as the infinite present after the future. The principal source of

¹⁴⁷ On the thought experiment see Stuart et.al. (2017); On the ideological impact of thought experiments Kragh (2012). On cold war cybernetics and technoscience see Medosch (2016).

¹⁴⁸ including that of A.E. van Vogt influential to Situationists and the Independent Group.

¹⁴⁹ see also Steiner (2013:36 n38.) in which it is reported that Hamilton recounted images from *The Mechanical Bride* and *Vision in Motion* as borrowed for independent group purposes (Richard Hamilton, *Collected Works*, London 1982: 12; and Goodbun (2006:68) who states that it is 'obvious' that Greene's L.A.W.u.N is influenced by McLuhan.

this sense of postfuturity, is a repressed pataphysics of Franco Berardi's *After the Future* (2011) and his revisiting of the term 'futuribility' (2017).

D&R have a vexed relation with their science fiction influences – Dunne, clearly preferring in *Hertzian Tales* a nomenclature of *social- real- sense- and physical fictions; design- and architectural fictions*; some of the architecture fictions though, including *Aerial Paris* and *Aero-Living Laboratories* by Lebbeus Woods, are referred to as science fictions.¹⁵⁰

Lebbeus Woods, an architect who has produced imaginary schemes [...] exploring this quality in buildings (1985), refers to this 'strangeness' as 'objectivity', meaning not an analytical state of mind but simply the appreciation of the objects as themselves, independent of the operations of the mind upon them. Dunne 1997:33.

Although one of the few architectural propositions centred on the electromagnetic aspects of space, this 'architecture suspended in an invisible matrix of air and charge' (Sorkin 1990, 119) is a form of science fiction (Dunne 1997:62).

D&R seem to reject science fictions of the 'gadget' or science fiction as a literature of imaginary technology, yet still admit to a predilection for 'some science fiction'. Explicitly named in this regard, each providing SF or pataphysical reference, are the writers J.G Ballard, P.K. Dick, J-L. Borges and S. Beckett.¹⁵¹ In addition to the literary reference directly named in the

¹⁵⁰ Lebbeus Woods seems to hold a peculiar fascination for D&R and whilst the significance of the spatiality of Woods anarchitecture might bear further scrutiny in relation to Land's essay *anarchitecture as jungle warfare* this will not be taken up within this thesis.

¹⁵¹ Beckett might be more properly be claimed to have been influenced by Duchampian pataphysics. See for e.g. the supposition of Salisbury, L., 2012:137. However, Beckett's *The Exhausted* is speculative in the sense that Atwood suggests. The novels referenced by D&R from the above authors are the following:
Ballard, J.G. *Crash* in Dunne 1997: fn 5 (1990:9); 56-57 (1973:5); D&R 2013: 205 *Super-Cannes*; *Millennium People*; Dick, P.K. 1997 2013: 74; 2013: 162. fn 8. "How to build a

exegesis, Porush's Soft Machine furnishes its 'pataphysical realm' with imaginary machines from the literature of cybernetic fiction. This is an important inclusion in relation to Dunne's first Exegesis, expanding the range of literary sources in productive ways in terms of the species of bachelor machines that Michel Carrouges defines as pataphysical as we will discuss in Part three and four.

D&R do not reference a speculative *mode* of science fiction, only the science fictional *genre*.¹⁵² However, of the science fictional literature listed in Hertzian Tales, the speculative nature of J.G Ballard's fiction suggests a modal shift and one which extends beyond crude generic periodization. At the time of writing,¹⁵³ there has been something of a renewed sense of SF as speculative to contend with. Indeed, Jeff Vandermeer, a writer and editor of the literature of the New Weird (2008; 2011 and 2012), anthologises Jarry in *The Big Book of Science Fiction* (2016); as had Merrill (1966) and Moorcock (1968) opening possibility to expand definitional debates internal to the science fiction community, to 'the weird' as category in the adoption of the terms of speculative fiction and speculative culture, to design.

In *Speculative Everything* (2013), whilst the explicit naming of pataphysics and pataphysicians is silenced, attending to exegetical content reveals the continued presence of two Satraps of the Collège de 'Pataphysique, Jacques Carelman¹⁵⁴ and Luigi Serafini. Pataphysical reference of D&R is also evident in the continued reference to and preference for a kind of speculative and science fiction represented by PK Dick and J.G Ballard. Of the artists caught up in the Exegesis and its evasion of the directly science fictional, the

Universe that doesn't fall apart two days later" (1978); Borges, J-L 1997:31 *The Book of Imaginary Beings*, 1974; 1997:43 *The Analytical Language of John Wilkins, in Other Inquisitions* 1964 (2013); Beckett, S. 1997:43 *The Lost Ones* (1970) in Porush 1985:161.

¹⁵² Hollinger, Veronica, *Genre vs. Mode* in Latham (2014).

¹⁵³ 2012-2018.

¹⁵⁴ it is worth noting here that one of the central figures of my caricature of design research as a science of the artificial, Donald Norman selects from Carelman's impossible objects to illustrate his distaste for the non-functional artefact.

influence of Klee, Duchamp and Panamarenko¹⁵⁵ in Hertzian Tales can be associated with the Collège de 'Pataphysique. From this can be inferred certain characteristics and a partial allegiance to the literary genre of an increasingly 'speculative' and pataphysical science fiction broadly conceived as spanning 1945-1989.¹⁵⁶

A literary, symbolist and surrealist influence is evident in Spiller's *Communicating Vessels* and in the *Exegesis of D&R*. Each reference the speculative illustrations of Leo Lionni's (1976) *'Parallel Botany'*¹⁵⁷ and Luigi Serafini's (1981) *Codex Seraphinianus*. Although indirectly, then, speculative designers reprise a concern with the form and content of the comic strip, with speculative illustration and graphic narrative. Whilst the influence of the British comic *Eagle* and the character Dan Dare on British design is more than apocryphal,¹⁵⁸ Warren Chalk's *Space Probe* and *Zoom!* collage Jack Kirby's American comics, in *Archigram No.4*, extend to a continuing transcontinental influence for speculative design, where, extrapolating Dunne and Raby's reference, such science fictional sources as the possible worlds of the Franco-Belgian *bandes dessinées*, of Jean Giraud aka Moebius are in Syzygy with the concept designs of Chris Foss and Syd Mead (2013:102-3).

The role of science fiction illustrators, including the what-if scenarios of Leoni, but most recognisable in prop, model-making and cinematic techniques of pre- and post-production artists, are as central to the production of speculative design artefacts as the scenario of post-coldwar thought

¹⁵⁵ The exhibition catalogue of the retrospective exhibition of Panamarenko, Hayward Gallery, London, 1999, notes that Panamarenko is an honorary member of the *Collège de Pataphysique*.

¹⁵⁶ Throughout the thesis I use the definition of speculative fiction developed by Judith Merrill as "a special sort of contemporary writing which makes use of fantastic and inventive elements to comment on, or speculate about, society, humanity, life, the cosmos, reality [a]nd any other topic under the general heading of philosophy." Judith Merrill, "Introduction," (1967:3).

¹⁵⁷ *Satrapas of the Collège de 'Pataphysique*

¹⁵⁸ *Dan Dare and the Birth of Hi-tech Britain*, exhibition at the Science Museum, London, 2008.

experiments. Concept artist Syd Mead's inclusion in the *Exegesis* describes him as a pioneer of a form of speculative industrial design during the 1970s and 1980s. Although nowhere noted in the *Exegesis*, the reference to Mead's speculative industrial design masks his contribution as concept designer of a 'supersonic baroque' aesthetic¹⁵⁹. It is a more than tangential aside to note that in *Do Androids Dream of Electric Sheep* that a character Al Jarry is according to Rossi (2014) named in homage to Jarry; and furthermore that he discovered Jarry through his wife Nancy Hackett, "who had studied for a year at the Sorbonne and belonged to a circle of pataphysicians".¹⁶⁰

Lus Arana (2013) notes the science fictional universes of narrative graphic artists, including Alejandro Jodorowsky,¹⁶¹ Schuiten & Peeters, and Moebius as a "crucible" of architectural design and concepts.¹⁶²

D&R are less concerned with this line of speculative illustration, and hence unconcerned with the pataphysically new wave SF of Moebius' Airtight Garage¹⁶³, than with its impact in cinematic pre-production and prototyping, hence they leave observation that Mead makes this dual contribution to prototyping and science fiction concept design and film props to David Kirby, in his developing the notion of the 'diegetic prototype' a concept subsequently adopted as central to speculative design fiction practice. There is the sense of a political aesthetics in this, of a 'critical design of the left' and a 'design fiction of the right'; that the adoption of these industrial sets of techniques on which speculative design depends, which is to say, the tactics and strategies of pre-production in film-making and games design, rather than the tabular grid of

¹⁵⁹ which is to say, an expression of atemporality in the scenography, prop and vehicle design for the film *Blade Runner* (Scott 1982) an adaptation PK Dick's novel *Do Android's Dream of Electric Sheep* (1968), and with Moebius for the film *Tron*.

¹⁶⁰ Rossi, 2014:237. n 23. notes that PKD in SL5 159-60 admits this in a letter of 1978.

¹⁶¹ Alejandro Jodorowsky, an unrecognised influence on Barney's Cremaster, a visual and conceptual resource for Dunne & Raby. Jodorowsky was a collaborator with Foss and Moebius on the aborted SF animated version of Frank Herbert's *Dune*.

¹⁶² Lus Arana's research categorises over 200 examples of visionary architectural and urban concept design in graphic narrative, comic strip and the bandes dessinée.

¹⁶³ A versioning of Moorcock's Jerry Cornelius.

graphic narrative and this has techno-scientist implications. Direct association with such science fiction and technocultures¹⁶⁴ are resisted by D&R, but these are elsewhere more readily adopted, by Sterling and Bleecker, and in the writings on design fiction by Ian Bogost, where games and thought experiments begin to converge upon speculative culture and philosophy.¹⁶⁵ These references to illustration practices, are not pataphysical in the sense that might yet be developed as such by members of the *Ouvroir de bande dessinée potentielle*, or in the 'reverse archaeology' of the London Institute of Pataphysics' Department of Patentry. However, what can be termed its speculative graphic-objects: props, and concept storyboarding, also serve to underscore an approach of speculative design which treats the scenario game, as developed in scenario planning and futures methods technographically. The pataphysical implications of this technography are taken up in concluding Syzygy of part three of the thesis.¹⁶⁶

These suggestions of this preliminary syzygy can serve to create an initial feedback loop for the thesis, and provide sufficient communicative noise with which to consider the philosophical commitments of designers and commentators of the possible worlds of artistic research.

¹⁶⁴ For a parallel argument that does not engage with the science fictionality or techno-scientist implications of speculative design see: Thacker (2001).

¹⁶⁵ To which Negarestani's Toy Universes a philosophical development toward the end of writing this thesis might be further considered beyond the scope of its writing though one which might confront the rationality denied by D&R with a fully speculative force.

¹⁶⁶ technography in the sense proposed by Marco Frascari.

2.3.0 PHILOSOPHICAL ALLEGIANCES AND ANTAGONISMS

The philosophical commitment of this thesis extends previous contribution to the field of Deleuze & Guattari Studies (Hales 2015) and a long interest in practice-based research in R&D applied to speculative design research methodologies. The comparative approach taken brings into productive relation otherwise antagonistic¹⁶⁷ concepts of the philosopher Gilles Deleuze with the theory-fictions of Jean Baudrillard extricated from the *exegesis* of D&R. One consequence of seeking to bring Deleuzian concepts to bear on the field of speculative design as pataphysical is a need to give some address to the pataphysics of Deleuze's own philosophical methodology in relation to his proposal that a book of philosophy "should be in part a very particular species of detective novel, in part a kind of science fiction." (Deleuze 2004: xix). This is approached by hypothesising certain of Deleuze's books and objects as pataphysical in milieu and mode. The thesis offers as its central motif, a pataphysical *clinamen*, abstracting this concept from the philosophy of Jean Baudrillard, referenced by Dunne in *Hertzian Tales* as a principal tenet of the 'science of imaginary technical solutions', to take up a swerving inquiry and reflection upon speculative design.

2.3.1 The Shape-Shifting Philosophical Allegiances of D&R

In early explication Dunne refers to the philosopher Baudrillard above all other philosophical voices. This is not to exclude other philosophical voices or the progression of the philosophical dimensions of this codifying and explicating of practice-based research: Paul Virilio, Michel Foucault, Gaston Bachelard, are the philosophers Dunne attends to interest in the philosophy of Critical Design in *Hertzian Tales*, establishing a clear continental

¹⁶⁷ An antagonism notable for differences of respective accounts of 'simulacra' ref It has been something of a custom in Deleuze Studies to contrast the Deleuzian and Baudrillardian simulacra the paradigmatic case example is Massumi, Brian. "*Realer than Real: The Simulacrum according to Deleuze and Guattari*", in *Copyright*, no.1, 1987, pp. 90-97.

philosophical lineage¹⁶⁸. In *Hertzian Tales* Dunne is also interested in cultural theorists referencing the following: Adorno (in Johnson 1984), Marcuse (in Becker 1994), Benjamin (likely from Becker 1994 but no source given), Barthes (1989); literary theorists Shklovsky (likely Brecht, but no source given), Porush (1982); psychoanalysis (Freud 1966) and psychology (Dewey 1958). The list is considerably smaller, though no less eclectic, than the artists, architects and designers listed. The *Exegesis* is philosophically diverse and interested in critical and theoretical texts through these secondary sources. Despite D&R's protestations against critical theory there is emphasis on the Frankfurt School: in Brecht's critique of commodities, technologies, and things; in Baudrillard and the argument that processes of reification come to divest people of human qualities and capacities (Kellner 1989, 1994). The Science Fiction theorist, Darko Suvin, whose voice is not present in *Hertzian Tales*, but is in *Speculative Everything*, represents something of an ideological continuity to interest in technical objects and estrangement. This expresses Suvin's indebtedness to Brecht's "plays for a scientific [ie. cybernetic] age" (Warrick 1982:80). *Design Noir*, adds no further ideological detail, where *Speculative Everything* shifts the emphasis of the exegesis from continental philosophical sources to literary theory – to Lubomir Doležel (1998), Kendall Walton (1990), and James Wood (2008). The ideological position referenced, no matter how foregrounded in *Hertzian Tales* (1997:1), remains somewhat ghostly, complicated, somehow ambivalent, vexed rather than contradictory. The term 'postmodern' fits quite well, but so does growing awareness of a political aesthetic of the coldwar modern (D&R 2013:6), yet this can be counterposed with an aesthetic and speculative sense of possibility (possible worlds) and a weird relation to speculative fiction.¹⁶⁹ Furthermore, a postmodern and science fictional temporality (Gomel 2010) permeates the *Exegesis* in preference over the temporality of the modern.

¹⁶⁸ Adorno (2005:36, 83, 94); Marcuse (2005:83, 96, 98-100); Benjamin (2005:83); Barthes (2005:3, 36, 73); Shklovsky (2005:35).

¹⁶⁹ see for example Vandermeer (2016) and Margaret Atwood's discussion of the difference between Science fiction and speculative fiction in Atwood 2013.

Yet further still, Speculative Everything continues to maintain a distance between the critical thought experiments of D&R and the critical theory of the Frankfurt School. In its turn to theories of fictional worlds, the *Exegesis* in its later phase (2013-) retains the political ambivalence of *Hertzian Tales* rendering it open to the critique of political philosophies of accelerationism. Take, for example, reference to the Marxism of Freedman's (2000) *Critical Science Fiction* as well as what appears to be D&R's desire for new forms of capitalism rather than political alternatives: "[we] find the most thought-provoking and entertaining stories extrapolate today's free market capitalist system to an extreme, weaving the narrative around hypercommodified human relations, interactions, dreams and aspirations." (2013:73).

2.3.2 Philosophical implications of Design Fiction

The following pages expose the philosophical account of speculative design, in as much as this might be extrapolated from the *Exegesis*, and philosophical commitment and application of philosophical concepts of other of its interlocutors. A survey of the extant and contextualizing research on Speculative/Critical/Design Fiction also illustrates the differences as well as perceived similarities of the wider discourse, and serves to locate the philosophical motivation relevant to my own consideration of speculative forms of practice based or 'artistic' research in design. Furthermore, as burgeoning literature on speculative design frequently takes the form of an expanded literature survey it will not be necessary to again rehearse that task but to give an account in terms useful to the current research. Design Fiction is a discursive field (Hales 2013) and this is one that has the effect of 'making' speculative design in social constructivist terms. I do not intend to again survey the orthodoxies of this terrain as much of this is a kind of historicising of speculative practices that avoids direct engagement with the philosophical (and pataphysical) sources this thesis seeks. Taken together though, such survey material does provide a thorough overview of the field at the time of writing this thesis. The following survey also emphasises that over the course

of the *Exegesis*, Dunne and Raby, shift their philosophical allegiance away from the postmodernism of Baudrillard to the, at root, Lewisian modal logic of theorists of possible fictional worlds.

2.3.3 Bruce Sterling

The American science fiction novelist and futurologist Bruce Sterling, an alternative voice from the wider field of speculative culture most clearly influences the direction of the *Exegesis* in an interview for Icon Magazine (2009). Sterling has been associated with a European media art scene from a centrist position as a contributor to Wired magazine, informing much of the discourse on cyberculture¹⁷⁰ since the 1980s cyberpunks and into the first decades of the 21st century. In an exchange with Sterling regarding proposing a pataphysical object for design fiction Sterling chides the commitment to pataphysics and Deleuzian philosophy of this thesis, and subsequently proposes that these ideas must have 'dropped out of cyberspace'.¹⁷¹

I don't know if Alfred Jarry and Gilles [sic] Deleuze are gonna help much, but in an era of design fiction and new aesthetics, we've got some serious contemporary problems concerning basic metaphysical issues like "what is real" and "what has aesthetic value." Sterling 2013.

Nonetheless, it is productive to conjoin the Deleuzian concept of a technological object and Sterling's design fiction the *Spime*, his neologism for a space-time object, through a kind of ecological thought.

In Bök's *Poetics*, Atwood's critical geographic non-fiction book *Survival* is contrasted with Canadian pataphysical poetry in its concern with a non-

¹⁷⁰ Dunne cites tactical media practices and device art amongst his myriad influences. My contribution to *Deleuze & Design* (Hales 2015), redesigning the objectile draws specifically on device art in formulating my ideas on a speculative hardware (Hales 2016).

¹⁷¹ Sterling (2013) <https://www.wired.com/2013/02/deterritorializing-design-rethinking-the-relationship-between-theory-and-practice/> accessed August 2018. Sterling also noted that I "dropped out of cyberspace" at the NCRP hosted non-flight seminar with Sterling at *Alien Aesthetics*. (2016) <https://syntheticzero.net/2016/01/09/alien-aesthetics-w-bruce-sterling-co/>

rational environmental space. As we approach two decades after Bök's seminal explication of the poetics of pataphysics and the actualisation of Baudrillard's pataphysics of the Year 2000, the environmental geography of Canadian pataphysics is best represented by the research of Adam Dickinson, who in *Pataphysics and Postmodern Ecocriticism* (2014) examines the potential role of the "science of imaginary solutions", as a poetic methodology with distinct ecocritical dimensions. "Imagine" he proposes " a science that combines ecology with soap bubbles" managing in this proposal to reference both Jarry's powers of miniaturisation, his 'spoofing and quackery' with Boys' Soap Bubbles¹⁷², and simultaneously reaching for the *Umwelt* space of Jakob von Uexküll, an ecologist characterised by Deleuze as a "Spinozist of affects" and in whose science, soap-bubble like realities are 'blown, in fancy [...] around each creature to represent its own world, filled with perceptions which it alone knows".

Sterling's participation and interest in media-theoretical and tactical-media contexts of European and Anglo-American cybercultures informs his non-fiction writing on design, futures and innovation, *Tomorrow Now* (2002), and *Shaping Things* (2005) has also seen him discuss his work alongside pataphysicians.¹⁷³ Sterling has been instrumental to the adoption of Design Fiction in R&D contexts as well as informing wider discourse on Design Fiction¹⁷⁴ (Bleecker 2009; Hales 2013). As a science fiction novelist, Sterling was at first interested in literary implications of a convergence of design and fiction, stating that "*design has much to offer science fiction*" and that his mode of writing *is design fictional* rather than science fictional (Icon 2009). Subsequently, Sterling reversed this position that it '*confused the issue*'. Instead, Sterling has consistently sought to insert an ecological imperative

¹⁷² The inclusion by Boys of an illustrated passage from Edward Lear's *The Jumblies* is a noted source for Jarry's miniaturisation of Faustroll echoing that of Alice and for the ship or skiff of Faustroll's voyage. Boys 1890: 23.

¹⁷³ de Balie Imaginary Media- performance by the pataphysician Peter Blegvad a former animation tutor at the RCA who seems to have no impact on Dunne & Raby's speculative practice.

¹⁷⁴ WIRED https://www.wired.com/category/beyond_the_beyond/

into the discourse on possible futures, as well as a series of models of time and alternative temporalities - most notably the *atemporal* (Sterling 2010; Hales 2013) and his own theory-fictional technological object the space-time object or *spime* (Sterling 2005). There are certain central fictions that might be examined through Sterling's invention of this imaginary media object, indeed such functional or useful fictions as space and time, seem to be central to the pataphysics of architecture and design in their re-imagining and imaging the mechanism of space and time as thought experiment, as Sterling has done with the spime, and Deleuze with the objectile. As conjectural possible or counterfactual propositions, space-time objects, as their neologistic form 'spime' and 'objectile' suggests, are possessed of a conceptual mobility between the realms of science, philosophy and art. These objects are topographical fictions,¹⁷⁵ that have become topological and asymmetric with architectural histories and design theories. Sterling returns to his notion that design has something to offer science fiction by introducing to his own sub and meta – genre criticism¹⁷⁶ the term '*architecture fiction*'. This is a term which Dunne also uses in *Hertzian Tales* (1997:58) and extrapolating visual sources from the *Exegesis* makes available to speculative design an expanded resource in support of the thesis's argument.

2.3.4 Design and Architecture Fiction

We will need to return to discuss architecture fiction later in this thesis but it will be worth noting at this point how Anthony Dunne's inclusion of the phrase 'architecture fiction' in connecting with his own observations on design fiction, critical and speculative design, foregrounds the architectural references of D&R in their *Exegesis*. The phrase is not Dunne's invention any more than it

¹⁷⁵ notably the Hypnerotomachia Poliphili Colonna, Venice 1499.

¹⁷⁶ See for example Sterling's contribution to cyberpunk through his 'samizdat' the e-zine cheap truth (<http://cheap-truth.blogspot.com>); his introduction of the term slipstream fiction (2011), as well as various developments of post-cyberpunk including his and Gibson's shift to the present as science fictional, whence the chronoclastic notion of atemporality. Sterling's criticism bears some comparison with that of the new wave and the Anglo-American debates over speculative fiction see Judith Merrill (Calvin 2016)

was that of Bruce Sterling. The earliest reference determined for its use is Robert Harbison (1977) who uses this in connection to the 15th Century architectural fiction the incunabula *Hypnerotomachia Poliphili* a dream text that has been influential from Rabelais to Spiller. As such, as an embedded architecture informing Rabelais' Abbey of Thélème, built by the giant Gargantua, I suggest it should be considered interleaved with Faustroll's equivalent books and influential to architects as diverse as Le Corbusier and Nigel Coates.¹⁷⁷ Sterling's sf architecture fiction *White Fungus* (2012) is the only explicitly science fictional architecture fiction in literary form. Whilst Dunne had no need to heed the longer history of architecture's relation with fiction, in this thesis extending the ideas of speculative design back onto the compositional plane of architectural fiction establishes pataphysical concepts which might be used to dislodge the Deleuzian notion of the technological object as objectile from the strata of architectural computation. To dislodge it from the plane of the artificial, so that it might be remobilized instead for speculative design research into the architectural fictions of the science of imaginary solutions.

Of the imagined, drawn to scale and architectural 'scaled-model' D&R have little to say. It becomes necessary therefore to add to this brief collation of architectural reference, Robert Harbison's *Eccentric Spaces* (2000), where the term architecture fiction was perhaps first used in the way that it might be productively put to work for speculative design. Harbison's notions of the built, the unbuilt and the unbuildable, whilst I will not use them here, might be productively applied to categorically oriented future research. Suffice to say, that D&R seem to be opposed to the *unbuildable*, relegating this to the category of fantasy or to a kind of science fiction that is of no use to them. It seems that unless an object can be experienced as-if through a physical fiction, a diegetic prototype at 1-1 scale it must remain in this zone of the fantastic. In his reanimation of the term architecture fiction, which occurs after

¹⁷⁷ The literature on the *Hypnerotomachia Poliphili* is extensive. Principle amongst the sources for this thesis is Lefaivre 1997.

the introduction of Design Fiction as a mode of speculative design, Sterling acknowledged a short yet remarkable essay by JG Ballard for The Guardian, *A Handful of Dust* (2006).¹⁷⁸ This source for Sterling's interest in architecture fiction, contains reference to the Carceri of Piranesi¹⁷⁹ but also to a hidden relation with the British New Wave of SF. Ballard and Moorcock shared a fascination with the architecture of the Atlantic Wall and this is reflected in an architecture fiction of Moorcock's New Wave *Jerry Cornelius*: as Jerry approaches the Atlantic wall, atop it and on the horizon, he can see his father's 'fake Corbusian chateau'.¹⁸⁰

Similarly, whereas in 1977 Robert Harbison talks of a fifteenth century incunabula as an *architecture fiction*, Kazys Varnelis (2009) credits Sterling with the term in 2006 this re-invention of architecture fiction:

instead of absorbing into itself, a Dada Capitalist architecture would look out into the world, creating architecture fiction, a term that Bruce Sterling coined after reading "A Handful of Dust", a piece on modernism by J. G. Ballard to suggest that it is possible to write fiction with architecture.

Further compounding the erasure of Harbison's architectural humanities approach from the science fictional histories of architecture fiction in speculative design, Mark Dery (2011) also attributes this to Sterling:

Architecture fiction anticipates the future present... the field becomes almost infinitely more exciting when you realize that architectural projects, by definition, entail the reimagination of how humans might

¹⁷⁸ it is unclear as to which of several sources Ballard's title might refer. T.S. Eliot's *The Wasteland* is the likely source.

¹⁷⁹ Ballard's citing the Carceri in this context is characteristic of the dimensions of the architectural sublime of Anthony Vidler's *Architectural Uncanny*, representative of traits Vidler observes in Coleridge and de Quincey. That these are amongst Jarry's sources is not a concern for Vidler but is of interest to the themes of this thesis.

¹⁸⁰ Moorcock *The Final Programme* 1968:18

inhabit the earth" writes Bruce Sterling, (and) "how they organize themselves spatially and give shape to their everyday lives."¹⁸¹

Harbison's and Spiller's thinking through the capriccio, or the incunabula *Hypnerotomachia Poliphili* and Ballard's own *mise-en-abyme*, serve to obtain purchase on Sterling's fascination with an atemporal image. This image of futurity he notes in a serendipitous convergence between three books, one by Freud, Baudelaire and H.P. Lovecraft, a convergence requiring a 'serious postmodern semiotic analysis'. (Sterling 2010) This thesis does not attend to the semiotic or psychoanalytic analysis in the ways anticipated by Sterling, but is a response to this and a convergence between speculative and material cultures. If speculative design is considered an architecture fiction in the manner suggested by Harbison, and the sense of its futurity as atemporal as intimated by Sterling, such analysis will approach Dunne's idea of the architect's 'dreaming objects' through an opening onto the architecture fiction of literary second or dream worlds and medieval machines an obsession which Jarry shared and informs Deleuze and Guattari's schizoanalysis.¹⁸²

2.3.5 Atemporalities, post-futurologies and time-binding

Sterling describes himself as a science fiction writer and futurologist. We have suggested that relations between design fiction and futurology commence with the post-independent group John McHale and have been resuscitated by Bruce Sterling after the end of the future – or at least in his post-cyberpunk non-fiction writ as design fictions since the end of Futures Studies.¹⁸³

¹⁸¹ A claim that is repeated in *Metropolis* magazine Rajagopal (2013)

¹⁸² The Rabelaisian and Shakespearean aspects of this have received scholarly attention see introduction to Shattuck and Watson Taylor (1965: 82-85); and a medievalism can also be found in Jarry's own publications *Ymagier* (1884-85) and *Perhinderion* (1886); see also Berger (1990).

¹⁸³ Berardi suggests 1977, but a less precise end of the future is signalled for example in the shift in the EU foresight programme from futures methods to its discussion of the discipline of 'Anticipations'. that the notion of anticipations here is suggestive of the management of risk whilst at the same time contains a sense of suspension and an echo of the short lived Belgian SF magazine 'Anticipations', (1945-46) reprinting American and British content from *Tales of*

McHale's contribution to Futures combines with the time-binding of Korzybski (1958) something of the lateral methodology and orthography of the independent group. Korzybski's time-binding is significant to a sense of the science fictional of speculative design and for influencing William S Burroughs and A.E Van Vogt and, indirectly through these authors, to influence P.K Dick (Rossi 2011:15-19). There is a sense that McHale's studies on time, population and environmental concern are explicitly missing from, yet inform, Sterling's account of his design fiction the *Spime* (2005) as a space-time object. The following citation of Korzybski on time-binding from his general semantics in Winetrout's (1970) review of John McHale's *The Future of the Future* (1969) is a nexus of theoretical resource.

And because humanity is just this magnificent natural agency by which the past lives in the present and the present for the future, I define humanity, in the universal tongue of mathematics and mechanics, to be the time-binding class of life. (Korzybski)

In a postmodernism of the infinite present, those atemporalities Sterling favours over the modern, its 'Future' as such: those of futures studies, futurology and futurists, are incorporated into the present in time-binding processes. At the same time, Sterling has absorbed and adopted methodologies from futures studies, for example Stewart Brand's Pace Layering, which Brand describes as depicting "The order of civilization. The fast layers innovate; the slow layers stabilize. The whole combines learning with continuity." (Brand,1999). This incorporation of the future into the present in post-cyberpunk literature exceeds Korzybski's concept which, like Freud's, belonged to the time of modernity. In modern times, futurists, futurologists, and those researching the future through scenarios and other instrumental means, transport dreams and anticipation to a new dimension: the political and aesthetic dimension of interest to D&R as playgrounds (2013:3). Time-

Wonder for a French reading audience, and instantly conveying both 'hope and fear' in postwar Europe.

binding for the futurist would make the future 'take time' in the present. D&R's concern with dreams taking the form of hope in Speculative Everything is also expressed in the anxieties and phobias of an electromagnetic 'leakages' with which their *Hertzian* and *Noir* worlds discharge. These would be to Freud, timeless, in that the unconscious system, "is not ordered temporally, [is] not altered by the passage of time." (Noel-Smith 2016). Freud's atemporal and Sterling's might not be the same thing, the same object, but have mutual regard for the possibility and impossibility of time and futurity, a regard which can be sensed in the pataphysical concern with an *imaginary present* and Berardi's with an *infinitely expanding present* (2011:51).

2.3.6 Bruce Sterling, Julian Bleecker and Design Fiction: David Kirby and the Diegetic Prototype.

Julian Bleecker's essay on Design Fiction (2009), the introduction of the term Diegetic Prototype by David Kirby (2010, 2011) and Sterling's promulgation of the idea of design fiction seem inseparable.¹⁸⁴ Kirby's development of diegetic prototyping is thorough and widely documented. A simple definition, though, can be extracted from this extended quotation:

For film-makers and science consultants, cinematic depictions of future technologies are what I term diegetic prototypes that demonstrate to large public audiences a technology's need, benevolence and viability. [...]Diegetic prototypes have a major rhetorical advantage even over true prototypes: in the fictional world - what film scholars refer to as the diegesis - these technologies exist as 'real' objects that function properly and which people actually use [...] Equally important, the

¹⁸⁴ I was able to discuss Design Fiction with Bleecker as part of my research following the publication of the Design Fiction special issue of the Journal Digital Creativity which I guest edited (2013) and met with David Kirby, 6th July 2016, to discuss his research on film where we discussed the architecture fiction of one of my former tutors and an Archigram contributor, Arthur Quarumby, who had designed an inflatable dome for the Twentieth Century Fox Film, *The Touchables*, dir Robert Freeman (1965).

embedding of diegetic prototypes within narratives contextualizes emergent technologies within the social sphere. Within the film world[...] (Kirby 2010).

As is clear from the extant literature, the concept of the diegetic prototype is theorized by David Kirby to one side of its codification in speculative design. Kirby, in *The Future is Now (2010)*, cites Julian Bleecker's essay *Design Fiction (2009)* thereby generating something of a time-spiraling cybernetic feedback loop of what is a central theory-object: the design fictional object 'will have been' the one adopted by both D&R in *Critical Design* and Bruce Sterling and Julian Bleecker for subsequent *Design Fiction* practice. For Sterling, *Design Fiction* becomes nothing less than defined as this: "*Diegetic Prototypes to suspend disbelief about change*" (Sterling 2013a).

Kirby's concept of the diegetic prototype has been uncritically adopted within the discourse on speculative design, particularly with respect the platonic sources of its 'diegesis'. There is no intent or need to undermine so pervasive and useful a concept evident in its wide adoption. However, the uncritical adoption of the notion of its diegesis is especially problematic in the cinema of science fictions where the problem for diegesis is that occasionally the witness is immersed in a scene which exceeds (or at least threatens) cognition and where productive becomings of technical objects occur on the level of their diegesis.¹⁸⁵ The impossibility of exceeding cognition is explored by philosopher Quentin Meillassoux in his *Science Fiction and Extro-science fiction*, but a sense of this argument, within an application of Deleuzian cinematic concepts expresses the related estrangement of cognition in inexplicable narration and the future. The diegetic futurity of speculative prototypes is entangled in what Deleuze and Guattari term the 'event' (Marrati 2008) in which their sense of 'newness' and the neologistic form of science

¹⁸⁵ The primary source for SF as cognitive rupture is Suvin (1979) but for a fuller development of this notion see Shaviro (2016).

fictional objects (spime, objectile) estrange and displace the temporal 'now' into registers of untimely futures.

This thesis proposes an alternative conception of diegesis, one closer to Deleuze, developed by Etienne Souriau, and offers this to further the discourse on the familiar concept of the diegetic prototype. Souriau's notion of diegesis opens the diegetic and performing object to a non-hylomorphic account of Deleuzian design, as objectile, as well as to extend the notion in *Exegesis*, of the novum and estrangements of speculative objects in relation to its theories of fictional and possible worlds.

2.3.7 Subjectile Background Realities: The Infraordinary and the Infrathin

Julian Bleecker refers to a *background reality*, the diegetic spatiotemporality of the design fictional artefact. The virtuality of this everyday normal of the science fictional universe is one from which design fictions might be actualized as physical fictions. This background reality of a science fictional world can be referred in Deleuzian terms through a relation between subjectile and objectile:

[S]ubjectile in French means the layer as basis for applying paint, so when one primes the wall before painting it means preparing the subjectile. It is a technical term, mostly used in industrial painting. However, the subjectile also refers to a redefinition of the subject. If one would consider the subject as a surface, then one precisely has the relationship between the specific technical meaning and the philosophical meaning ... (Bernard Cache, in Balkema & Slager 1999:27).

If the Californian and a British or European version of design fiction might be contrasted here in the actualisation and assimilation, not of *novum objects*,

but of 'new normal' ones as subjectile-objectile, then, for the background surface Dunne draws from the concept of the infra-ordinary (1997:53). Containing an echo of Duchamp's infrathin or l'inframince, (Adnock 1983)¹⁸⁶ the thinner than thin, and in terms adopted by this thesis involving a pataphysical clinamen: the smallest possible movement/thought. Duchamp said that *l'inframince* could not be precisely defined but only approached:

le bruit ou la musique faits par un pantalon de velours côtelé comme celui ci quand on le fait bouger [the noise or music made by corduroy pants like these rubbing when one moves]; "Pantalons de velours—/ leur sif otement (dans la) marche par/ frottement des 2 jambes est une/ separation infra-mince signalée/ par le son [velvet trousers—/ their whistling sound (in) walking by/ brushing of the 2 legs is an/ infra-thin separation signaled/ by sound].

The examples given above in Craig Dworkin's (2013: 18) translation, and whose thinking on Duchamp is significant for its highlighting not only the impossibility of definition, but that with the expression 'infra-mince', Duchamp introduced a reminder of the pataphysical clinamen, of an ambiguity, the infrathinness of categorical distinctions the either/or and dyalogic distinction between reality and fiction, and, tellingly:

that *'Duchamp recognises that the exemplary inframince form of the single leaf of paper, if studied, can be seen as a sculptural, three dimensional space [...]* and that *"in the next breath [Duchamp] continues: je pense qu'au travers de l'inframince, il est possible d'alier de la seconde à la troisième dimension [through the infrathin, I believe,*

¹⁸⁶ see also Doove, Edith M, (unpublished PhD thesis) *Laughter, inframince and cybernetics - Exploring the Curatorial as Creative Act*, Plymouth, 2017. Doove provides a thorough literature review of published sources on Duchamp's infrathin and in which she interestingly notes of Duchamp's concept as the 'possible'.

it is possible to go from the second to the third dimension]" Dworkin
2013: 18

Of his methodology, Duchamp would write that "allegory (in general) / is an application of the infrathin" (Duchamp 1980 n 6). Writing on the infraordinary Virilio, in the *Aesthetics of Disappearance* (1991) describes the way familiar things transform into the unfamiliar, though whether Dunne invokes the infraordinary with Perec or Virilio as his source remains unclear.¹⁸⁷ The passage on the infra-ordinary in *Hertzian Tales*, curiously, develops alongside Dunne's further engagement with Baudrillard. It is, though, unnecessary to draw the distinction for the infraordinary is a concept developed jointly by Virilio and Perec whilst collaborating in their editorial contribution to *Cause Commune*.¹⁸⁸

In *The Aesthetics of Disappearance* Virilio notes the evocation of co-presence, of "familiar things" and "something else of an unfamiliar nature" in Magritte, and speaks of "the passage from the familiar to the unfamiliar", in Bernadette de Soubirous's fugitive apparitions "those surprising moments that precede epileptic absence [...]perceiving the kind of infra-ordinary reality".¹⁸⁹ Some may find this suggestion of the infra-ordinary strange – alluding, as it also does, to the kinds of mysterious and mystical apparitions of *The Aesthetics of Disappearance*, whilst at the same time possessed of the aesthetics of cold war bunker archaeologies.

By imagining the object in use, Dunne, and by inference Bleecker, suggest we become absorbed in the bizarre world of the infra-ordinary. Virilio also associates Proust's literary vision with this sense of an 'infra-ordinary reality' as a blurring of 'inside' and 'outside' reality suggestive of Ballard's zones of

¹⁸⁷ Neither Perec's *Species of Spaces* (1974), nor Virilio's *Aesthetics of Disappearance* (1991) form part of Dunne's bibliography, whilst each of these authors are otherwise referenced.

¹⁸⁸ Virilio and Perec were on the editorial board together between May 1972 and February 1974.

¹⁸⁹ Virilio (1991:36).

psychological escape. Perec's infra-ordinary reality, itself a product of the OuLiPo, a 'sub-committee' of the Collège de 'Pataphysique, is therefore deeply invested in the study of the science of imaginary solutions. That an Oulipian constraint is a pataphysical clinamen, and that Perec should establish a pataphysical fiction of architecture as the constraint for a book in the methodology of the *Knight's Tour*, and that the Oulipo would establish a further workshop dedicated to an alliance of constraint and the subgenres of crime fiction, the OuLiPoPo (Police Procedural), suggests a syzygy of pataphysical clues.

2.3.8 Psychogeographic Objects and an Atemporal Dimension.

Chris Petit notes (2009) that Paul Virilio's *City of Panic* illustrates the realisation of Ballard's "*prophesies of the city as zone of catastrophe (Beirut, Baghdad, New Orleans, Los Angeles, the Rio favelas), in which all citizens are becoming one citizen - saturated, standardized and synchronized - citizens conditioned by a need for terror and retribution.*" (ibid). Petit's, analysis is psychogeographic as well as Ballardian (Sellars 2018) and can be extrapolated to the atemporality of Sterling's *Favela Chic* in his anthology *Gothic Hi-Tech* (2012). Ballard, though, may well have been more concerned with an infrathin relation between past and future as cosmic catastrophe than the infraordinary or psychogeographical object. Without wishing to collapse any remaining distinction between the infrathin and the infraordinary, carrying one with the other as is suggested in what follows, will bring a new sense of the science fictional as an extra-diegetic spatiality for design fiction.

Furthermore, there is something to be said of the repetition of themes in the naming of things from *This is Tomorrow* (1956) *The Future is Now* (2010) *Tomorrow Now* (2002) and Berardi's *After the Future* (2011) and what is called the atemporal by Sterling and William Gibson: each of Sterling Gibson and Ballard are concerned with the near future. This as we have already

noted might express a continuum between what Jarry terms the 'imaginary present' and Berardi an 'infinite present'.

In the late century, SF imagination of the future vanished, became flat, narrow and dark, and finally turned into a infinitely expanding present." (Berardi 2011:51).

What Jarry had termed an 'imaginary present' is the apparition of a clinamen in time, one in which the temporality of the Ballardian near future is mythographic and entropic. Similarly, for Sterling and Gibson, the near future is atemporal, and philosopher Nick Land and cultural theorist Sadie Plant 'will have been' an anastrophe of the future coming together in its potentialities, coalescing unseen and unfelt in the present. Taking the form of the pataphysical gyre the philosophy of accelerationism is diagrammed by Nick Land in *Templexity (2014)* as a time-spiral.¹⁹⁰ Speculative Design's relation to a pataphysical sense of time, chance and contingency might thus be extrapolated from the infraordinary to a constraining of the futurological impulse to the present. This, the temporality of the 'future after the future' as Franco Berardi has it, is an uncanny acceleration of the passage from the novum device of science fiction to objects familiar but which extend the estrangement effect noted by Dunne of the diegetic prototype.

¹⁹⁰ Whilst it might still appear incongruous, if not controversial, to include the templexity of Nick Land's *Capital*, the technological singularity, reaching back to install itself in the present, in a discussion on speculative design, it should be recalled that Land's essay for the AD issue on *Architects in Cyberspace*, edited by Neil Spiller (1995: pp 58-9) alongside Dunne & Raby's article *Fields & Thresholds*. The spiral form of modernity is studied in Israel (2017). Amy Ireland develops Land's templexity and the modernist poetics of Blast and Vorticism in her essay *The Poememenon (2017)*.

2.4.0 OTHER SPECULATIONS ON SPECULATIVE DESIGN

2.4.1 Tony Fry

Where D&R have shifted the emphasis of their practice and pedagogy to the construction of what they are terming 'designed realities' in their teaching and research at Parsons, New York (2016-), Tony Fry amongst the long-term contributors to the now defunct Design Philosophy Papers, positions design as central to the construction of the future through his notion of 'defuturing'. He grounds this concept in technology and war, much in the ways in which Friedrich Kittler had done previously for media studies, by insisting that media determine our situation (Kittler 1999 xxxix). Fry's suggesting that defuturing is deeply embedded in 'ways of world making' in *A New Design Philosophy: An Introduction to Defuturing* (1999:16) is a sideways reference, though an unacknowledged one, to Nelson Goodman. Dunne and Fry each choose to reference Goodman's *Ways of World Making*. 1978. Of greater relevance, though, are *Fact, Fiction and Forecast* (1954), from which my observations are made, and *Languages of Art* (1968) from which the term allographic is useful in approaching a way in which speculative design prototypes might be considered as drawing with their materials. Goodman's thesis, and it is one shared by Fry and D&R, is the constructivist and relativist one that multiple and competing instances of the world are possible and fabricated, through scientific theories, through mythology, art, philosophy, literature, and that through each of these worlds are fabricated; they 'fiction' what we call 'facts' or evidence. Defuturing, Fry says, is form of critical deconstructive reading. Defuturing is capable, he writes, of initiating an unmaking of the rationality and what he terms 'logic' of fabrication of this evidence. This is to be deconstructed, as it is under the logic of such fabricated images and forms that present worlds, and world-makings, depend. (1999:11) Fry thus offers a definition of design defined by what it does, which squares well with a

Deleuze-Guattarian questioning of how things work and how design actualises things: 'Design designs' (Fry 1999: 1976).

In their introduction to the book *Deleuze and Design*, Betti Marenko and Jamie Brassett write:

Where some design theorists argue that there is a future only by design, we might say that design makes possible futures materially present now and that design "actualises virtualities" (2015:21).

2.4.2 Paola Antonelli

For us, the purpose of speculation is to "unsettle the present rather than predict the future." But to fully exploit this potential, design needs to decouple itself from industry, develop its social imagination more fully, embrace speculative culture, and then, maybe, as MOMA curator Paola Antonelli suggests, we might see the beginnings of a theoretical form of design dedicated to thinking, reflecting, inspiring and providing new perspectives on some of the challenges facing us" (D&R 2013:11).

There has been a clearly developing reflexivity between the thinking *for* critical design and thinking *by* critical design, a reflexivity evident in Paola Antonelli's sense of 'thinkering' and the 'knotty object'. Antonelli deploys knotty objects in a programme of seminars developed for MIT. In developing these ideas on critical design Antonelli adapts those of Bruno Latour¹⁹¹ and the philosophizing, codification and theoretical construction of those commentators identified in this section as the orthodox voices on speculative design. The blurb for Antonelli's MIT seminar series develops from the stringiness of her *Design and the Elastic Mind (2008)* to propose that knotty objects offer a helpful conceptualisation of speculative design, as one of those knots or 'hybrid assemblages' that ravel together the useful fictions of science, law,

¹⁹¹ Latour's Reflections on Etienne Souriau's *Les Modes d'existence*, (2011) provide a vector of interest for syzygies of this thesis.

technology, capitalism, politics, and policy. Before further discussing Antonelli's knotty object it will be productive to consider 'thinkering' as itself sufficiently knotting. Antonelli in *Design and the Elastic Mind* called for designers to adopt the role of 'new pragmatic intellectuals' and adapt the methodologies of thinkering, the mode¹⁹² of knowledge production proposed by John Seely Brown, which seems to offer one way of considering speculative prototyping as a form of pragmatism.¹⁹³ Antonelli identifies thinkering as productive to "giving shape to the embryonic dialogue between design and science". Furthermore, Antonelli associates thinkering and fabrication in ways which resonate with the way in which this thesis considers Deleuze-Guattari's notion of the thought synthesiser and the tinkering or making of things, in the non-hylomorphic pragmatism of Gilbert Simondon.

Lurking behind Antonelli's 'knotty objects' though is contemporary art's engagement with emerging technical materialisms and speculation on things as ideas (Stadler 2017)¹⁹⁴ in object-oriented ontologies. In the terms of this thesis, this masks a Deleuze-Guattarian sense of artistic research as possible world, a sense missing from the discourse on Speculative Design which it could offer to discourse on practice-based research. Indeed, the sense in which the knotty objects of critical design might be said to entangle *into*, *through* and *for*, fictional scenarios and speculative artefacts or to unravel in the notion of fabulation (Bogue), the fictioning (O'Sullivan) of its research methodologies and their production of science fictional subjectivities in *the making of a people to come* (Deleuze 1991:108), requires greater precision. What emerges in the first decades of the twenty-first century are increasingly vexed questions of fabrication and fictioning, of fictionality, the fictional; the fictive and the futural; as what Bruno Latour, might call a field of action in

¹⁹² exemplifying mode 2 knowledge production as transversal or transdisciplinary.

¹⁹³ as demonstrating how D&R's citation of John Dewey (2005:80) is mobilised by this notion of designing.

¹⁹⁴ and as exemplified in the paradoxical ideas, objects, spaces, situations and scenarios of *dOCUMENTA (13)* Carolyn Christov-Bakargiev (2012).

which any attempt at currency or overview is undermined by its dynamism.¹⁹⁵ However, a narrower meta-dimension of pataphysical fabulation in speculative methodologies is critical to the present thesis. The political consequence of fiction as methodology, and of notions such as the atemporality of the present, the making of what Deleuze names the cybernetic modulation of subject-object, and of 'dividuals'¹⁹⁶ arising in the science fictional production of subjectivities,¹⁹⁷ becomes inescapable by speculative design and attending to this in political philosophical terms is necessary to the conclusion of the thesis

2.4.3 Carl DiSalvo

Carl DiSalvo in *Adversarial Design* (2012) frames design agonistically after Chantal Mouffe's post-structural political theories (Laclau & Mouffe 1985). DiSalvo fills a void for the political left after the disavowal of critical theory in favour of critical thinking of D&R. DiSalvo's sense of design and agonism, is envisaged as a form of design thinking pursued as a means of political contestation and praxis. The political agonism proposed by Mouffe and its transmission in DiSalvo's cultural politics of the future, provides a critique of the mediation of imagined futures through the physical sciences. In its tensile expression between the communication of science and its critique, DiSalvo emphasizes the ways in which speculative design reproduces as well as invents culture. Where DiSalvo asks something along the lines 'if design reproduces culture, what politics are being reproduced in speculative design?' D&R might suggest that speculative design challenges the status quo, and DiSalvo seems aligned in his agonistic intent. As well as the political theory of Chantal Mouffe, DiSalvo draws from Science and Technology Studies citing the work of Langdon Winner and Bruno Latour as well as the 'vibrational'

¹⁹⁵ For example, I do not engage in a discussion 'non-linear warfare' in this thesis— whilst these have been of great interest and clearly relate to the research the political commitment that this entails has threatened, at times, to derail the thesis.

<https://www.lrb.co.uk/blog/2014/03/28/peter-pomerantsev/non-linear-war/>

¹⁹⁶ See Savat, David (2009:45-62).

¹⁹⁷ In the sense developed by the philosopher and performance artist Simon O'Sullivan and by the artists Thomson & Maglioni.

political theory of Jane Bennett (2010). Deleuze's heretical philosophy and Guattari's militant semiology should have much to contribute to genuine interdisciplinarity in DiSalvo's approach. His background in tactical media also reveals a constructive dimension to his interest in debate, the artifact, and where power is located. Latour, in whose object orientation and networks DiSalvo notes a relational politics and Bennett's position too, combines Latourian objects and, although this is missing its technological object, Deleuze's 'modulatory' power (Deleuze 1999a) is surely Bennett's 'vibrational' one. There is no direct concern with the new materialism of Bennett in the present thesis although the conjunction of Deleuze and Whitehead developed in *Vibrant Matter* and Graham Harman's convergence of Whitehead and Latour (2009a) share at least a commitment to a flat ontology with Deleuze's interest in Whitehead's concepts (Deleuze 1999:20, 53, 72-73, 76-81). It is not, however, Harman's object oriented ontology that holds the most value for the present thesis, but rather two related notions of his. The first is that "*a philosophy should be judged on what it can tell us about Lovecraft*" (Harman 2012) for what this implies, with respect to methodological hyperstition, as Lovecraft has been central to this,¹⁹⁸ and at least parallels the French adoption of American science fiction in ways the present research finds important to Deleuze, to Baudrillard and to pataphysicians. Second, is Harman's use of the fictional science of 'ontography' which he extracts from the fiction of M.R. James, to name a flat object oriented methodology.

And isn't "ontography" a pretty good name for what I'm doing? Geographers who make maps have a limited number of basic personae to deal with: rivers, woods, highways, mountains, and the occasional giant television towers. By analogy, "ontography" would deal with a limited number of dynamics that can occur between all different sorts of objects. (Harman, G. 2009b).

¹⁹⁸ see also Fisher, M. 2007.

2.4.4 Speculative Realism and Speculative Design

Alongside the reflections of practitioners and commentators above, and following a call for such a contribution by Bruce Sterling (2011c), the methodological concerns of speculative design have also been taken up by so called speculative realist philosophers.

*AS READERS HAVE likely gathered, here at the blog we're mighty keen on "design fiction" and "architecture fiction," while science fiction is, of course, pretty much an existential given...

*So this would imply the necessary existence of a "philosophy fiction."

It is not the intention of this thesis to spell out implications of the New Materialisms and Speculative Realisms, although the discursive frame of speculative culture clearly encompasses this speculative turn, and design fiction is deeply imbricated in an accelerationist post-futurology. In the case of pataphysical concepts and the recurring objects of pataphysicians, animate and inanimate, material or immaterial, these exist concurrently and in atemporal ways, just as any object for speculative realists, interacting, merging and withdrawing, affecting each other and reality.

[a] positive feedback circuit including culture as a component. It can be defined as the experimental (techno-)science of self-fulfilling prophecies. Superstitions are merely false beliefs, but hyperstitions—by their very existence as ideas—function causally to bring about their own reality. Capitalist economics is extremely sensitive to hyperstition, where confidence acts as an effective tonic, and inversely.

The concept of hyperstition, defined above by Nick Land (2009), for Benjamin Noys is a product of Land's "mad-black Deleuzianism" emerging amidst an acceleration of the technological and philosophical virtual. A fabricating fabrication, after the concepts produced by the Cybernetic Culture Research

Unit, and 'exhumed' in the theory-fictions and philosophical fictions, fictional worlds and possible futures of millennial artistic and philosophical research.¹⁹⁹ That a so-called speculative turn in philosophy and speculative design might have something to exchange, and that attempts to do so seem difficult, is a primary motive force within this thesis. However, this also serves to render complex any sense of defining the speculative as other than dynamic, or, as the *Exegesis* itself claims – Speculative 'Everything' – which, ironically, gets closer to the philosophical account of the speculative sense informing this research than that book itself can acknowledge.

Notwithstanding the argument for the relevancy of the hyperstitional mode to the science fictional methodologies of Deleuze and comparable methodologies in Design, it would be disingenuous to claim a full engagement with philosophical speculative realism within this Thesis, as the philosophical affiliation of its research is to Deleuze & Guattari Studies and there is much that might be said in opposition. Which is to say, the thesis involves dissociating hyperstition and acceleration from the speculative turn, returning and attending to the Deleuzian source of this material. Whilst it is not, therefore, an aim of this thesis to grasp what were formerly, and only briefly, known as Speculative Realist philosophies, there are some tangential voices, antagonistic yet pertinent to the research contained in this thesis which are noted.

Against the line of philosophical orientation toward speculative design can be contrasted a critique of its speculative tendency as accelerationist. Benjamin Noys introduced his critique of accelerationism in *Malign Velocities* (2014), and this thesis engages in the political implications of this in its expression in Speculative Design. This accelerationist tendency is criticized by Franco Berardi and others on the political left. Mark Fisher's *Capitalist Realism* (2009)

¹⁹⁹ This research has brought me into closer interaction with former members of the CCRU through my fellowship with the New Centre for Research & Practice. This has included seminars with the British philosopher, Nick Land and with co-creator of the concept of hyperstition Reza Negarestani.

is a peculiar presence in the *Exegesis* (2013) and a lynchpin between Berardi's Marxist critique of accelerationism and a post-CCRU speculative realist enjoyment of things Lovecraftian. This is to say, that speculative design has an ambivalent relation to accelerationist politics 'after the future', an 'unnameable' alien aesthetics, its return as the speculative, and adopting left and right accelerationist positions. Of the broadly speculative realist philosophical voices that have attempted to give address to the problem of speculative design and accelerationism in the twenty-first century – there is one that is addressed below. Two others are discussed externally to the thesis: Benedict Singleton whose attempt to set out a map 'toward speculative design' (2013) is give address through mutual interest in Flusser's etymology of the word 'design' by countering and complimenting this with Flusser's essay *On Fiction* (Hales 2016)²⁰⁰ another is Benjamin H Bratton's exemplar speculative design project *The Orchid Mantis of Sanzhi*.²⁰¹

Alien Aesthetics would not try to satisfy our human drive for art and design, but to fashion design fictions that speculate about the aesthetic judgments of objects. Bogost 2012.

Games Designer and philosopher Ian Bogost's chiding that design fiction could never be weird enough in his essay *The New Aesthetic Needs to Get Weirder* (2012) is deserving of closer attention. This chimes with Sterling's 'An Essay on the New Aesthetic', a pithy review of the situation the artist James Bridle (2011) describes, in his introduction of the phrase the *New Aesthetic* at the SXSW festival: "for a while now" he said "*I've been collecting images and things that seem to approach a new aesthetic of the future*". Sterling's response to this – and it is this that seems to provide the intuitive leap to 'Design Fiction' of Bogost's response:

²⁰⁰ the arguments of that essay appear in a different form, within my thesis.

²⁰¹ Bratton's appointment as director of speculative design at UCSD is contiguous to the production of my thesis, but of note is his own Design Fiction *The Orchid Mantis of Sanzhi* the pataphysical biologies of which inhabit the UFO houses of Sanzhi thus folding a realised utopian community with a virtual one in *Dispute Plan to Prevent Future Luxury Constitution* (2015).

[The New Aesthetic is] temporal rather than atemporal. Atemporality is all about cerebral, postulated, time-refuting design-fictions. Atemporality is for Zenlike gray-eminence historian-futurist types. The New Aesthetic is very hands-on, immediate, grainy and evidence-based. Its core is a catalogue of visible glitches in the here-and-now, for the here and for the now. (Sterling 2012a)

Sterling puts his aesthetics of atemporality and the 'New' aesthetic into dialectical opposition and, crucially, uses the term 'evidence-based' to link the New Aesthetic with twenty-first century forms of "covert surveillance [...] military tech [...] a severe, involved air of Pynchonian erudition"; the New Aesthetic, Sterling says, "doesn't look, act, or feel postmodern; that it has no hyphen-post, hyphen-neo or hyphen-retro." Sterling's reference to Thomas Pynchon is pertinent for Pynchon's literary machines are of the species of technical object Carrouges identifies as Bachelor Machines. Michel Carrouges's essay on *Bachelor Machines* (1954), had the effect of putting into circulation the claim that all machines are first pataphysical that will be central to subsequent argument of the thesis. Sterling's observation, is that the twentieth century modernist project of the machine and that of Cold War paranoias of the device, repeat in the *New Aesthete's* interest in covert surveillance and military technology. One only need recall from *Gravity's Rainbow*, the synthetic material *impolex-G*, the macguffin-like *Schwartzgerät* and Gottfried's relation to *S-Gerät* the V2 rocket numbered 00000 at the end of the novel. Sterling, though does not follow his own pynchonesque lead to its logical conclusion, but instead takes his own 'crisis doomer gothic favela atemporal' (2012a) to be something for a generation *involved in* postmodernity, and contrasts this with the *New Aesthetic* as "a post-internet avant-garde". Sterling goes on to compare Bridle's tumblr collection in terms of a "*Walter Benjamin problem*". This is to say, that Sterling seems to suggest Bridle adopt the conceptual persona of a fictionalised 'Walter Benjamin' critic in an "age of digital accumulation." (Sterling 2012a).

Bogost's article for the *New Atlantic* (2012) calls for a design fictional intervention in Sterling and Bridle's accumulation of images, and is a merging of the atemporal and the New Aesthetic. Bogost offers a specifically philosophical interjection, one discussing collections, taxonomies and design fiction that involves an ontologically 'flattened' dimension and bears comparison with Berardi's notion of a flattened temporality of science fiction:

In the late century, SF imagination of the future vanished, became flat, narrow and dark, and finally turned into a infinitely expanding present." (Berardi 2011:51).

Bogost shifts the alignment of design fiction to that of the new aesthetic in dialectical opposition created by Sterling. Before addressing the implications of this move it is necessary to make two preliminary observations. First, to note that it is Sterling who constructs the opposition between atemporality and the new aesthetic. Where for Bridle and the contributors to his tumblr, 'surrealist camo' is part of the new aesthetic, for Sterling this belongs to the atemporal, as a discontinuity in the idea of the future as progress. There is already in Bogost's essay, a sense of the horizontality of design fictional objects – the ontography of a flattened hierarchy from his *Alien Phenomenology, or, What it's like to be a Thing* (2012b:35-60), whereas for Sterling, particularly in his 'slider-bar of disbelief', a vertical and hierarchical categorization of a collection of design fictions begins to be ranked by level of disbelief necessary to the creation of their second worlds or supplementary universes.²⁰² Second, to note Bogost's contribution as a Games theorist and that this adds a transmedia dimension to studies of design fiction. A useful summary of Bogost's work provided by Chris Bateman in his book *Imaginary Games* (2011) puts this into confluence with the analytic philosophical

²⁰² At an interim progression stage of this research I presented to an incredulous panel of design historians an ontographic flattening of Sterling's Slider-bar populated with some of the design fictional things.

traditions of the *exegesis*: in Bateman's book, there is discussion of Bogost's Object Oriented Ontology in further conjunction with Kendall-Walton's theories of pretend and make-believe (1990).

As with Bogost's work in Games and Platform studies, this thesis seeks to address an ontological dimension of speculative design – one that necessarily emphasizes the fictional, fictive and fabricated as-if. To this end it takes a peculiar reading of the extant material on Speculative Design in guises other than D&R's exemplars, to highlight and foreground philosophical treatment of cultural material and the application of theoretical concepts in the citational objects of speculative design. Bogost's reaction to the New Aesthetic, the Weird, and Design Fiction then, and Sterling's invitation to speculative philosophers become frames for questions arising from this review of the literature. Taking Bogost as something of a pivot point, 'ontography' is suggestive of a methodological problem. This is to say, with respect to Bogost's research on games how might we translate its concepts to his brief essay on the New Aesthetic, to the field of design fiction, to highlight and then forego distinctions between games as either ludic or narrative, and the games of designers as similarly abstract or representational. Bogost makes claims contrary to older distinctions between ludology and narratology, observing that this was a false dichotomy. Instead games are both systems of rules *and* fictional possible worlds. The scenario games of speculative designers and the scientific models or rule-sets and fictions of speculative scenarios seem to involve similarly dichotomous ludological and narratological false distinctions. Hence the appeal to the systems of constraint and chance operations in later parts of the present thesis. Of specific interest are those systems and constraints of the Ouvroir Literature Potentielle (Oulipo), founded in 1960 as a sub-committee of the Collège de Pataphysique by Raymond Queneau and François Le Lionnais, and including the novelists Georges Perec and Italo Calvino amongst its members.

Bogost's use of the term ontography in *Alien Phenomenology, or What It's Like to Be a Thing* (2012), is given to what he calls an aesthetic theory of collecting. If there is a related precedent for Design Fiction of the ontographic, then Eduardo Paolozzi's *lateral method* is a strong candidate. The comparison made here is to the juxtaposition of found object and image in Paolozzi's *Bunk* presentation to the Independent group and the collection of demotic ephemera the *Krazy Kat* archive but also to the distinctly design fictional *Things* (1969). Significantly, the contributions to the discourse on speculative design and design fiction by Bogost (2012) and Singleton (2013) are shaped by the call for speculative philosophers made by Bruce Sterling on his blog for *Wired* magazine. From the perspective of this thesis the discourse on object oriented ontology has, for the large part, served to defer contributions from the field of Deleuze Studies to that of Speculative Design and it therefore responds to Sterling's provocation from within the field of speculative design discourse but outside of the *exegetical* frame. It is from and for these fields that this thesis seeks to make its contribution in the syzygies of Part Three of the thesis in the following pages.

PART THREE: SYZYGIES

3.00 INTRODUCTION TO PART THREE

The intention of this second section of the thesis is to perform a kind of thought experiment on what can be discovered through a pataphysical encounter with the practices of speculative culture. Its encounter is with the records and documents of the Exegesis; archival material on pataphysics in the registers of science fiction and interdisciplinary cultures and analysis of pataphysical content in the architectural humanities. This section provides a fuller demonstration of the methodology of the nomadic distribution outlined in the previous section of the thesis through a series of SYZYGIES which compose and transversally cross the plane of research interest. It takes the form of a series of vignettes, essays which together describe a skewed path²⁰³ through the material of interest. Each of these vignettes develops and contributes a disjunctive synthesis of relations to content arising in the *exegesis*. The intention is to not so much to explicate but to expropriate the *exegesis*. As well as expropriating the *exegesis* the Syzygies extricate certain concepts from it. Of these the 'diegetic prototype' will be a recurring protagonist and the pataphysical clinamen a recurring motif. The structure of the following section does not follow the *exegesis* at all strictly but swerves in and out of D&R's wild and encyclopaedic reference to construct from theirs, a philosophical thicket of its own.

²⁰³ R. Lane Kaufmann (1988) describes the essay as a skewed path in his article following Bense's argument (and that of Adorno) that 'to essay' makes probes of phenomena and is 'to experiment, to try out, to test even one's own cognitive powers and limits.'

3.1.0 SYZYGY #1:

DELEUZE, GUATTARI & PATAPHYSICAL MACHINES

Ideas about pataphysical machines, so deeply rooted in architectural imaginaries of the twentieth century,²⁰⁴ are extended by this thesis to the speculative ‘science-fictional’ design imaginaries of the twenty-first. Deleuze, notably, although writing on Jarry and his fictional characters the pataphysicians Ubu and Faustroll, was never himself recorded as being a member of the Collège de ‘Pataphysique.’²⁰⁵ In the opening words of the introduction to *Difference and Repetition* (1968) Deleuze, though, writes the quite pataphysical:

Repetition is not generality. Repetition and generality must be distinguished in several ways. Every formula which implies their confusion is regrettable: for example, when we say that two things are as alike as two drops of water, or when we identify “there is only a science of the general” with “there is only a science of that which is repeated”. Repetition and resemblance are different in kind— extremely so. Deleuze (2004:1)

That Ubu and Faustroll, both pataphysicians, the latter the inventor of a painting machine called *Clinamen* and a *Time Machine*, should be the subjects of Deleuze’s pataphysical essays suggests these as a potential source of the science fictionality of his books of philosophy, and is a pataphysical clinamen describing a swerving line for the thesis. Deleuze references science fictions of the future and of a deep time – those of H.P

²⁰⁴ For an excellent account of pataphysical machines that places these within a discourse on architectural machines traced back to antiquity see Olshavsky (2012)

²⁰⁵ Indeed, Andrew Hugill suggests that Deleuze is not considered pataphysical enough by the College. Personal Communication. Speculative Hardware Seminar, Algomech Festival 2017.

Lovecraft and of J.-H. Rosny aîné. Each of these are geologically oriented²⁰⁶ and involve vast stretches of time and space, using the earth itself as vehicle in much the way Serres had suggested Verne's *At the Earth's Core* functions as a time-travel fiction. (Serres 1975) J.-H. Rosny aîné is also a source for Jarry, who incorporates one of his alien forms of life, the Xipéhuz, into his own pataphysics of time travel, though not into his *How to Construct a Time Machine*, which is written in the manner of a scientific patent in an ironic attempt to mask its fictionality.

For Deleuze, the science of imaginary solutions should be understood to be amongst those capacities of thought necessary to the invention of new forms of art, science and philosophy. In *Anti-Oedipus*, what Deleuze and Guattari later called the chaoids necessary to invention in confrontation with what they term 'chaos', are put into a kind of encounter with the influencing machines (Jay 2012) of designers. They refer to the drawings of '*the very talented designer of electrical devices, Robert Gie*' (Deleuze and Guattari 1984: 17). Gie depicts in his designs an influencing machine (c. 1916) in *Distribution d'effluves avec machine centrale*, although Deleuze and Guattari do not alert readers of *Anti-Oedipus* to this, Gie's influencing machine drawings form part of a collection²⁰⁷ established by the pataphysician Jean Dubuffet. Gie's drawings, in the gallery record are "*characterized by complex networks of cables that penetrate the figures, crossing through them and extending into others*".

²⁰⁶ Whilst it is with the molecular subjectivities of Lovecraft's Randolph Carter that D&G are concerned in *A Thousand Plateaus* the geological inversion of the dreamlands as hollow earth is also characteristic.

²⁰⁷ Collection de l'Art Brut, Lausanne, fig. 18 below.

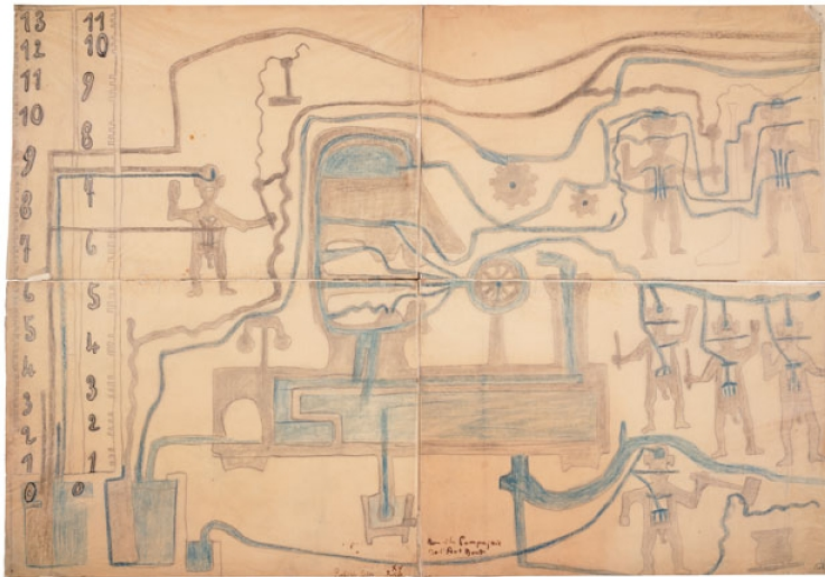


Figure 2. Drawing of Robert Gie, 'very talented designers of paranoiac electrical devices' Collection de l'Art Brut, Lausanne.

Immediately following this reference to Gie's machine, Deleuze and Guattari provide a list of other machines from various literary sources. This list of machines is a partial reproduction of an essay by Michel Carrouges, identifying similarities between Duchamp's *Large Glass* and a list of fictional devices from modernist and proto-modernist literature noting their taxonomy as 'bachelor machines'.

"All machines" says Carrouges, are first pataphysical: Faustroll's pataphysical machine *Clinamen* thus being a kind of ur-machine of all imaginary machines. Berressem (2005: 54) suggests that Deleuze's essay on *Lucretius and the Simulacra* may have provided the impetus for Serres' *Birth of Physics*, his study of the clinamen of atomism, but it is at least as likely that Deleuze's two essays on Jarry and pataphysics, especially his reading of Jarry's *Faustroll* and its *Clinamen* are a source for this influence on Serres' and his writing the philo-fiction of a history of the clinamen as quantum physics in *The Birth of Physics* (1977. trans 2000). Furthermore, when Deleuze & Guattari write, that "The Atom will traverse space with the speed of thought" (1996:38), citing Epicurus they develop an overturning of "the classical image" in which "error does not express what is by right the worst thing that can happen to thought,

without thought being presented as ‘willing truth, as oriented toward truth, as turned toward truth.’ This is a question or matter for science fiction, a matter for the science of imaginary solutions. Deleuze’s *willing truth* is that of Nietzsche’s science:

So, the faith in science, which after all undeniably exists, cannot owe its origin to such a calculus of utility; rather it must have originated in spite of the fact that the disutility and dangerousness of ‘the will to truth’ or ‘truth at any price’ is proved to it constantly... (Nietzsche The Gay Science 2010:281).

However, it is the *willing error* of the pataphysical clinamen’s fall as a generative falling, *se rabat sur*, a falling of a combinatorial power back into the plane of composition that will be most productive to this thesis. It is just such a misreading of a clinamen in the science of imaginary solutions as pataphysical that will lead to the Sokal Affair. Alan Sokal, in *Fashionable Nonsense* (1998:1) targets Deleuze for “the repeated abuse of scientific concepts and terminology” and is particularly scathing in his review of Deleuze & Guattari’s *What is Philosophy* accusing them of “pseudo-scientific invention.”²⁰⁸ Where Deleuze will frequently obscure and combine his sources, Jarry will occasionally make deliberate and combinatorial ‘errors’ of attribution. There is one which has resonance with Deleuze and this is Jarry’s attribution of a “Leibnizian definition”, in ‘Pataphysics’ chapter 2 of *Days and Nights* (1897), “that perception is a true hallucination...” A pseudonymous ‘Faustroll’ (2006:119) suggests that the Leibnizian definition of error in *Erroris Memorabilis Cartesii et Aliorum Circa Legem Naturae* (1868) may well have been Jarry’s target in bringing a sense of Leibniz’s attack on Cartesian physics to a pataphysics of time-spiralling vortices.

²⁰⁸ In fact, Sokal targets poststructural continental philosophy or what he suggests should rather be called philosophico-literary criticism. Sokal, 1998: 155,166,168 It should be noted that more than one philosopher of mathematics has refuted Sokal’s claims – especially that against Deleuze’s use of infinitesimals. See for example Johnson (2016:45) on Deleuze’s intentional and correct mathematical implementation of classical calculus.

In this same chapter Jarry writes that:

There is nothing in the back of infinity [...] because movements are transmitted in rings. It is established that the stars describe narrow ellipses, or at least elliptical spirals [...] Jarry 2006:73-74.

Jill Fell (2005:210) identifies Jarry's concept of 'foliated space' as created somewhere between the article *La Vérité Bouffe* and *Faustroll* in which Jarry parodies mathematical concepts, with the anticipation of something like a metafictional idea of foliated space in the interleaved space of the pages of Faustroll's equivalent books. There exists a contiguity between Jarry's idea of foliated space (espace feuilleté) and the holey space that D&G propose in *A Thousand Plateaus* (1996:413-15) and which is again present in *The Fold* (5) in its 'infinitely porous' matter. This also seems to entail a triangulation of Jarry's equivalent volumes with the non-Euclidean surface unfolding as the mathematician G.B.R. Riemann's concept of the manifold. Which is to say, of superimposed surfaces or realities and those spaces and surfaces of Faustroll's various and clinamenic journeys. It should also be noted that Deleuze's theory of multiplicity is itself drawn from Bergson's ontological folding of Riemann's foliation of surfaces²⁰⁹ which would doubtless have appealed to Jarry just as Jarry's pataphysical geometries of n-dimensions seem to have appealed to Duchamp, Borges and Lovecraft, though in different measure.²¹⁰ It has been suggested that Jarry "found something deliciously subversive"²¹¹ about the new geometries with their challenge to so many long-standing 'truths'. This also suggests potentialities of new geometries at the margins of the science fiction anomaly, inasmuch that these are present in Deleuze's *Cinema 2* (1989:127-129) and especially for the interest this generates in a pataphysical time machine of Resnais (1968). In

²⁰⁹ On Bergson's relation to Riemann, see Durie (2004).

²¹⁰ Lovecraft seems not to acknowledge such a source – however Borges notes the possibility and provides in *There Are More Things* a kind of missing link between Lovecraft and Jarry.

²¹¹ Linda Dalrymple Henderson in fact suggests this of Duchamp, but notes that Duchamp inherits this enjoyment from Jarry.

Cinema 2, Deleuze describes the opaque hyper-sphere from Resnais's *Je t'aime Je t'aime* as "one of the most beautiful crystal-images", proposing that what we see in the crystal "is time itself, the gushing forth of time. Subjectivity is never ours, it is time, that is [the soul or the spirit] the virtual."²¹²

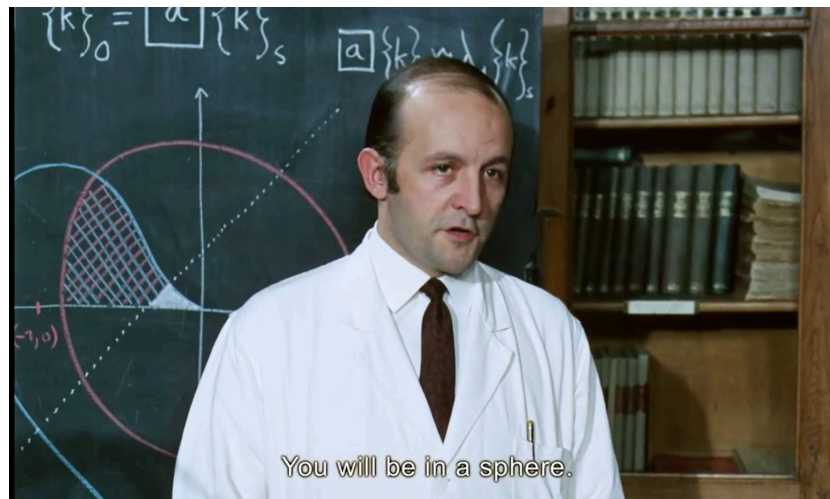


Figure 3. Deleuze's 'Hypersphere' and time travel in *Je T'aime Je T'aime*, Resnais (1968).

Jarry's fictional character Dr. Faustroll is both a discoverer of pataphysics, offering its definitional terms (in as much as this is possible), and an inventor of pataphysical machines of much interest to this Thesis for their art-historical influence. 'Faustroll' functions as something of a pataphysical technique in

²¹² Deleuze, *Cinema 2*:82

that 'Faustroll' serves as both a pseudonym²¹³ and discoverer of pataphysics, for the ways that pataphysical machines have become a collective authoring device of the fictional inventor, in the same way that 'Jerry Cornelius' was for British New Wave Science Fiction writers. Furthermore, (Pere) Francois Ubu, another fictional character invented by Jarry, who first uttered the word pataphysics, considering it '*a branch of science we have invented*': Ubu becomes the assumed identity of Jarry as pataphysician himself.²¹⁴ That is, Jarry submits to the association of his fictional invention, with Jarry and Faustroll/Jarry and Ubu as pataphysicians each fashioning the other as well as inventing their technological objects in their own mutual processes in a *reverse archaeology* of machines, hardware, devices and engines - and a pataphysical production of subjectivities. This notion of the assimilation of subject and object (technical and fictional) involves the powers of fictional technical objects as objectile and the science fictional [pataphysical] subjectivity modulation of what Deleuze terms 'dividuals' (Savat 2009: 58-9).

²¹³ For example, the volumes of *Pataphysica* by Cal Clemens edited under the pseudonym Dr. Faustroll.

²¹⁴ it is worth noting here Le Corbusier's reputed self-identification as *Pere Corbu*, with the figure of Jarry's Pere Ubu and the Ubu sculptures and that Jarry was similarly subsumed by his own fictional character- see Basso (2006:23)

3.2.0 SYZYGY #2.

A SYZYGY OF CLUES: DELEUZE SCIENCE FICTION AND THE DETECTIVE NOVEL

*philosophy's like a novel: you have to ask "what's going to happen?"
"What happened" Except the characters are concepts, and the
settings, the scenes are space-times. One's always writing to bring
something to life, to free life from where it's trapped, to trace lines of
flights (Deleuze, Negotiations 1995:140).*

In *Anti-Oedipus*, Deleuze & Guattari do not refer to Jarry's painting machine but, reference the bachelor machine of the *Surmale*. Deleuze (1998:91-98) in *An Unrecognised Precursor to Heidegger: Alfred Jarry*, refers to Faustroll's *Time Machine*. Deleuze's methodological construction involving the superimposition of layers of thought *"in other words, the active synthesis of memory and understanding are superimposed upon and supported by the passive syntheses of imagination"* (2004:71), has an equivalence with what Jarry terms 'foliated space' and its methodologically deliberate misreading.

Such a superimposition as Jarry's foliation of spaces replaces a perception of speculative design 'as if' as an allagmatic spatial surface in which 'both', 'and', are perceived at the same time. (Zdebik 2012:54). Speculative design, might be considered similarly as part science fictional and the fictionality of its objects and worlds analysed forensically as fragments in machinic assemblages. This is to say, paraphrasing Deleuze's own admission, that these techniques are part conjectural science fiction and in part employ the abductive logic of the detective novel.

3.2.1 The power of abduction (and the power of the false)

To get at Deleuze's relation with science fiction we must first discuss his philosophical relation with the detective novel for these are each folded in Deleuze's idea of what a book of philosophy should be. In '*The Philosophy of the Série Noire*' (2001a) and '*The Philosophy of Crime Novels*' (2004a:81-85) Deleuze notes the ontological power of the false in his analysis of the Série Noire:

The most beautiful works of La Série Noire are those in which the real finds its proper parody, such that in its turn the parody shows us directions in the real which we would not have found otherwise. Deleuze (2004a:85).

Deleuze's observations and reflections on the abductive logic of the noir detective include a repetition of parody. Amongst those authors noted, Deleuze names Jarry whose parodic force is, indeed, parodied by quotation 'the parody of parody itself' (Bok:83), what Deleuze elsewhere calls a 'double-theft' or 'a parallel evolution' (Deleuze and Parnet 2007:7). Jarry's pataphysics, after its association with fin-de-siècle symbolism, is most readily associated with the science fictional New Wave. Why then does Deleuze name Jarry in this discussion of the detective novel alongside the oedipal repetition of Robbe-Grillet's *Les Gommages*? Whilst Deleuze does not provide the answer to this pataphysical puzzle, there are some possibilities. Amongst these is the possible allusion to Pere Ubu as hybrid of the 'grotesque and terrifying' a Deleuzian criminality found in Kafka, of mechanicity (1986:38), or Poe or Lovecraft. Another, and more concrete possibility, is that the translator of American detective fiction, the pataphysician Boris Vian who is also the translator of A.E. van Vogt's Null-A provides a point of convergence through

which the logic of deduction, abduction and the non-Aristotelian²¹⁵ flows through the translation and circulation of Anglo-American pulp fictions in postwar France and its neo-avant-garde.

Editions Gallimard, as well as publishing the *Série Noir*, was one of France's leading publishers of speculative fiction, in *Le Rayon Fantastique's* translations, including some by the pataphysicians Boris Vian and Raymond Queneau,²¹⁶ of J.G. Ballard, P.K. Dick and other writers of direct relevance to the themes developed in this thesis. Despite the tensile relations between separate traditions of British and American science fiction and fantasy on the one hand, and the French *Fantastique* on the other – the *Crisis in Science Fiction* that Deleuze's friend Michel Butor notes of the influence in France of American 'pulp' sources and that is at stake in their 'reduplication', the projection of the present condition into the future, is that the future would not change.

Despite Butor's critique, the translations undertaken by pataphysicians can also be seen to be sites without generic boundary and frequently included amongst the science fiction stories 'weird tales', works of horror, and fantasy including works of H.P Lovecraft which also appealed to Deleuze and Guattari at the level of becoming molecular of the subject. Deleuze was almost certainly involved in these debates through this friendship with Butor and '*La crise de croissance de la Science-Fiction*'²¹⁷ in Butor's *Repertoire I* (1960:186-94)²¹⁸ a collection of Butor's essays amongst citational sources of *Difference*

²¹⁵ Although there would not be named a 'non-Aristotelian detective' until 1978 – 1977 if we stretch to include Dick's *A Scanner Darkly* for its mix of science fiction and police procedural. *Noir* and science fiction would not find filmic expression until the adaptation of *Kiss Me Deadly*, Godard's *Alphaville*, or Scott's *Bladerunner*.

²¹⁶ Queneau is significant as a founder of the OuLiPo – and the workshop for potential detective fiction the OuLiPoPo must be considered part of the genealogy of pataphysical detection.

²¹⁷ For the literature on SF in postwar France see Fitting (1974).

²¹⁸ Deleuze's observations are not on Butor's 'crisis' but "*Butor's La modification; or indeed Last Year at Marienbad, which shows the particular techniques of repetition which cinema can deploy or invent.*" and in the notes from the introductions suggests readers "*See also Michel Butor's article on Roussel which analyses the double aspect of the repetition that enchains and saves, in Repertoire, I, Paris: Editions de Minuit, 1960.*"

and Repetition. It is at least likely a source for Deleuze's affinity with the American SF and weird Tale thus affords SF a subversion of the detective procedural form in the Deleuzian corpus. Butor is also enlisted as support for Deleuze in *Logic of Sense* (55) in his discussion on the portmanteau word and the objectile, in this sense, might be considered a science fiction neologism of the kind found in the American 'reduplication' of science fiction. The naming of futuristic gadgets implicated in the falsification of escape and a disguised reality central to Butor's 'Crisis'.

Outside of the *Serie Noir*, Deleuze turns to Alain Robbe-Grillet a writer, the novels of whom contain lovecraftian gaps between objects and descriptions, moving in opposite directions to the descriptive attention to minutiae of the novels in the *Exegesis*. Robbe-Grillet is notable to Deleuze's Cinema project for his collaborative works with Alain Resnais and with whom there is shared a sense of the Deleuzian pataphysical time machine of Resnais' *Je T'aime Je T'aime* which is generically hybrid being part detective/part SF.

The commitment to the importation of American styles and structures of Gallimard's La Série Noir make it possible for the hard-boiled character Lemmy Caution to be translated and transported by Godard into *Alphaville*. At the same time, Godard incorporates reference to Fritz Lang's *Dr. Mabuse (1922)* to construct a New Wave science fictional universe. One in which the Institute of General Semantics, that of Van Vogt's positive rendering of Korzybski's General Semantics, switches political allegiances from the liberatory superhuman mode of Null-A. In its new function as societal control machine, General Semantics becomes a model for what Deleuze would come to describe as a function of cybernetic modulation of the 'dividual in *Postscript on the Societies of Control* (1992). Alain Resnais, Dick and Ballard, as well as Borges were all experimenters with the form of the detective novel and what can be called, for the purposes of this thesis, *a pataphysics of detection* in Deleuze's philosophical project. This is to say, following Deleuze's hybrid

notion of SF and detective novel, that a pataphysics of detection includes a mode of description that is at once futural and topological.²¹⁹ This seems to stand in relation to – but contrasts with – Dunne's citation of the novels of Nicholson Baker. In relation, because like Perec, Baker's object descriptions detail the everyday or 'background reality'; in contrast, because Baker's are descriptive of the everyday mundane rather than of the infraordinary.

²¹⁹ The topological detective novel in mind is Borges' Garden of Forking Paths as an alternative diagram of the possible world to that of Leibniz two diagrams Deleuze discusses in *The Fold*.

3.3.0 SYZYGY #3:

JARRY & SCIENCE FICTION.

In *Days and Nights*, Jarry's interleaving of space anticipates modernist intertextuality with the inclusion of a Xipéhuz, an alien from the Roman *Scientifique* of J.-H. Rosny aîné.

Sengle no longer listened to the frantic remarks, his gaze was fixed like that of the man with the tree, who, holding his staff in the middle, let him slowly turn, almost vertical, generatrix of two cones superimposed opposed by their summit, fluid out of natural halos of the body. A Xipéhuz was born upright and luminous, and the man of the woods spoke brilliantly in the viscous air, with three hundred years between each of his words, and Sengle listened in eternity.²²⁰

On the science-fictional dimension of pataphysics, Andrew Hugill references two figures from the new wave: J.G Ballard and Brian Aldiss. As we have seen, of these, Ballard is also central to the science fictional interest of D&R. Moorcock's observation on the significance of Jarry to New Wave writers including Ballard, likely provenance of Hugill's reference, is something taken up in the research for this thesis in correspondence with novelist, science fiction historian and translator of fin de siècle *Le roman d'anticipation scientifique*, Brian Stableford. Stableford has long advocated Jarry's importance to the development of science fictional ideas of possible worlds and the multiverse of the British new wave in science fiction (1995:23-28). The evidence for Moorcock's claim that Ballard, he and Paolozzi were influenced by pataphysics is largely apocryphal. However, in Ballard's *Atrocity*

²²⁰ my translation of the text at <http://jhrosny.overblog.com/2013/11/allusions-alfred-jarry-les-jours-et-les-nuits-1897.html>

Exhibition and Moorcock's *Traps of Time* there are homage and quotation of Jarry's texts. Ballard's is his rewriting Jarry's (1903) "*The Passion of Christ Considered as an Uphill Bicycle Race*" (1965), as the segment "*The Assassination of John Fitzgerald Kennedy Considered as A Downhill Motor Race.*" (1966) included in *The Atrocity Exhibition (1970/1990)*. Moorcock's is his inclusion of Jarry's, *How to Construct a Time Machine*, in the new wave anthology *Traps of Time (1968)*.

Stableford suggested the New Wave novels of Barrington Bayley to have been somewhat overlooked in histories of the New Wave and felt Bayley to have been "quite pataphysical in his description of devices."²²¹ Discussing the frequently reported rejection of the gadget in the New Wave, Stableford agrees with the position of this thesis that this had been over-stated and was better describable as a reconfiguring of technological concerns – with communications, with psychology, with cybernetics – and with pataphysical machines.²²² Stableford is largely responsible for registering pataphysics in Anglophone histories and encyclopaedias of science fiction and an accomplished translator of fin-de-siècle scientifique romance. The entry on pataphysics in *Science Fact and Science Fiction: An encyclopedia*, being a case in point not only in the intersection of pataphysics and science fiction - but its expansion into philosophy:

Jarry was aware of the fact that certain scientific theses past and present required unaccounted intrusions. The epicurean cosmology, as popularised by Lucretius in De rerum natura, imagined the ultimate origin of motion as clinamen. Stableford 2006:363.

Stableford reckons the influence of Bergson on Jarry's education to have been profound and Brotchie's biography of Jarry '*A Pataphysical Life*' argues similarly (Brotchie 2015:31-33). However, whilst Jarry's *Time Machine* has a

²²¹ Personal Communication, 2015.

²²² Stableford (2006) notes of Clark Ashton Smith's '*The Dimension of Chance (1932)* 'a rare example of an attempt to describe a reality unbound by physical laws [...]. Alfred Jarry's pataphysics is the most explicit of recommendations for the drawing of 'raw materials from the well of chaos'.

Bergsonian sense about it, it is revealing of Jarry's treatment of Bergson's philosophical ideas about time and duration pataphysically. Jarry had similarly treated Lord Kelvin's collation of scientific theses on matter and the aether, and he treats the dimension of time as a matter for the science of imaginary solutions. Jarry's Bergsonism is also Deleuze's, which is to say inextricable from its invention of supplementary universes. Stableford refers to these through Moorcock's conception of the 'multiverse'. Moorcock's own conditions of time-travel from his Jerry Cornelius series, is termed the 'Morphail effect' (1993; 2001; 2007). Referencing the temporal distortions of Jarry's instructions on time-travel, and Moorcock's 'Morphail effect' is also to reference Lewis's two paradoxes of time-travel, the 'grandfather' and the 'bootstrap' paradoxes²²³ and these are also discernible in the pataphysical time-machine of Resnais. Moorcock's multiverse is a useful term to introduce to the consideration of the counterfactual worlds of speculative design and counter to the 'lovecraftian' problematics internal to hyperstitional accelerationism, seeming to offer the flexibility of aperspectival and ascaclar possible worlds for the drawings of architectural fiction and the models of speculative design without the taint of a mad black-deleuzianism. Indeed, Moorcock's Jerry Cornelius series, part metatemporal detective / part science fictional espionage superhero has its own suitably pataphysical 'Shift Machine'. This machine is a means of time-travel as well as what Moorcock's character Jerry Cornelius calls "*a kind of 'Anti-Computer'*", a productive term with which to consider systems of constraint and anticonstraint and the pataphysical clinamen of anti-chance of Pierre de Latil (1958), which we will proceed to do in Part Four.

As well as the clinamen, or swerve, the Epicurean doctrine of perception and the Lucretian simulacrum are deeply implicated in Deleuze's philosophy,

²²³ http://www.multiverse.org/index.php?title=Morphail_Effect accessed August 2018, "The Morphail Theory specifically shows that once a time traveller has visited the future he cannot return to the past for any length of time; similarly, any stay in the past is limited, for the reason that if he did stay there he could alter the course of the future and therefore produce chaos. The Morphail Effect is my term to describe an actual phenomenon – the fact that no one has ever been able to move backwards in Time and remain in the past." Michael Moorcock. For the account of time travel paradoxes as possible see Lewis (1976).

expressed in its most sustained form in the essay *The Simulacrum and Ancient Philosophy*, the first appendix to *The Logic of Sense*. The implications of this involve Deleuze's philosophy of time, his consideration of the phantasm and singularities, which, in reworking Leibniz's and Spinoza's rationalist relationalities, complicates La Mettrie's Epicurean sense of automata, the Machine Man and his "*insistence on the chance combination of elements and anti-teleological stance*"²²⁴ and in turn complexifies reading, as proto-design fiction, Jarry's Surmale and the New Wave image of the machine man, entropy and the time machines of architecture and fiction.²²⁵

²²⁴ See James A. Steintrager (in Holmes & Shearin 2011:162-198).

²²⁵ It is Simon Sadler who observes, under different motivation than this thesis, of Archigram's proposition as 'bachelor's fantasies' Sadler 2005:20; and see John McHale, *Machine-Made America II, collage, 1956. Cover of The Architectural Review, May 1957. (Right) Ron Herron, Manzak, The Bachelor Machine, Collage, 1974. The Herron Archive.*

3.4.0 SYZYGY #4:

THE SCIENCE FICTION STUDIES OF MEMBERS OF THE COLLÈGE DE 'PATAPHYSIQUE, PATAPHYSICAL TRANSLATIONS OF SF IN POST-WAR FRANCE.

Shifting the syzygetical register from science fiction more fully to a pataphysical milieu, the following is concerned with post-war pataphysicians and members of the Collège de 'Pataphysique. In question is the literature of science fiction and the place of pataphysics and pataphysicians in the translation and the transmission of anglo-american science fiction in France, as a background or milieu to the writing of Deleuze's *Difference and Repetition* and Baudrillard's *System of Objects* which were both published in 1968. The science fictionality of Dunne and Baudrillard is in a mutual interest in PK Dick and JG Ballard: it is possible to identify these as authors of primary speculative fictions in D&R's *Exegesis* of speculative design. We have also seen the references to science fiction and pataphysics in Deleuze's books of philosophy and to discern Butor's 'crisis of SF' in France with Deleuze on the one hand citing J.-H. Rosny aîné and on another Ray Bradbury & H.P. Lovecraft. Pataphysics, for Baudrillard and for Ballard, as well as for the New Wave *is* science fictional. For Deleuze, Jarry occupies a peculiar generic position, albeit that Jarry's pataphysics precede the distinctions of genre fiction, pataphysicians and the milieu of Deleuze's writing his books of philosophy, is markedly science fictional. Nevertheless, where science fiction, especially the New Wave would claim Jarry as its precursor, as we have seen Deleuze has him as a writer of detective novels. (Deleuze 2001a:5-10).

Putting literature to one side, for the moment, it seems too much to dismiss as coincidence alone that of the films Deleuze includes in his works on Cinema, those that might be labeled science fictional are also imagistic and signaletic sources for critical design: Resnais, Godard, Marker, and Tarkovsky. Furthermore, Resnais's *Je T'aime Je T'aime* (1968) was based on the writing

of scenarist Jacques Sternberg an experimental SF writer and SF theorist. Indeed, in his SF criticism, Sternberg considered this to be in a direct lineage from Jarry's pataphysics²²⁶ and, as is the case with Deleuze and others interested in the redefinition of science fiction in France at the time, was influenced by the American science fiction of Bradbury and Lovecraft.²²⁷ Raymond Queneau, amongst the founders of the Collège de 'Pataphysique was a reader, then general secretary to the Gallimard publishing house, and proves pivotal to a pataphysical influence over the cultural absorption of anglo-american science fiction in post-war France²²⁸

Whilst it is not central to this thesis that Sternberg edited and wrote for Bergier's *Planete* magazine²²⁹ of interest is that Bergier with popularizer of cybernetics Pierre de Latil co-wrote two texts for Gallimard, one on 'the future', the other on the 'atomists of modern physics'. What is significant in this, is that Sternberg's sense of a pataphysical science fictionality is entangled with the cybernetics of Pierre de Latil, and this is visually expressed in Sternberg's extraordinary scenography for the film *Je T'aime, Je T'aime* (1968). The pataphysical nature of the film's time machine takes the form of an assemblage of heterogeneous and fragmentary circuits encompassing the time traveler, electronic and computer technologies²³⁰ contemporary to 1968, and what amounts to a *soft interface* aesthetically reminiscent of both the political architectural inflatables of Utopie, and J.G. Ballard's 'psychotropic' architectonic materialities in *The Thousand Dreams of Stellavista* (1962 in Ballard 2002).

²²⁶ Fitting (1974).

²²⁷ It is significant to my Deleuzian reading of SF and my SFnal reading of Deleuze, that the reception of Lovecraft was considered together with a cultural absorption of the American mode of science fiction.

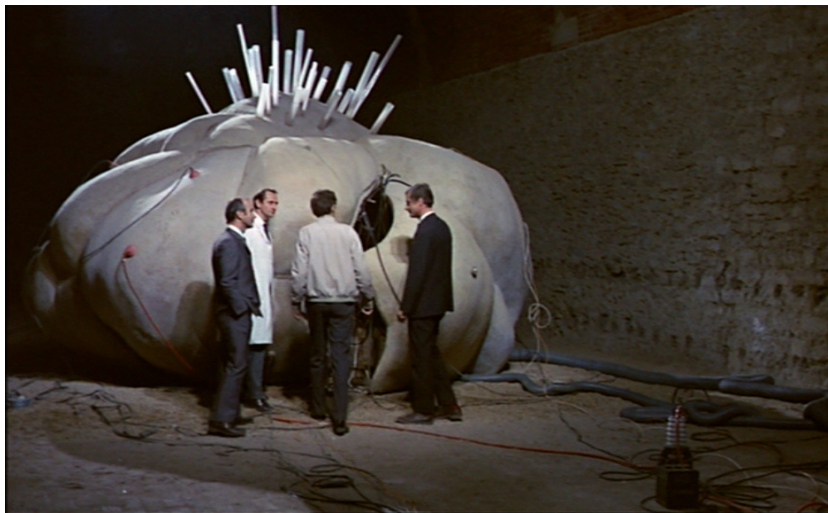
²²⁸ Michael Leiris, preface to Queneau, Raymond. "*Stories and Remarks*". Trans, Marc Lowenthal, University of Nebraska Press, 2000.

²²⁹ Gavin Parkinson's *Futures of Surrealism*. Yale University Press, 2015 considers Bergier's contribution to late surrealism and fantastic realism, but does not permit the ambivalent, if not affirmational, relation to cybernetics proposed for pataphysics by this thesis.

²³⁰ Figure 4. illustrates non-sequential film stills from *je t'aime je t'aime*.



Figure 4. Je t'aime je t'aime. the time machine electronics interfacing with the opaque hyper-sphere.



the time machine exterior.



the time machine interior.

Relations between Jarry, pataphysics and Science Fiction Studies are also subject to pataphysical research – and research by pataphysicists. In *Dossiers du Collège de 'Pataphysique No 28: Géographie et Histoire du Collège de Pataphysique Paris, 8 Juin 1965*, Jean Ferry's *Proust et la Science-Fiction*, proves valuable to an alternative reading of Deleuze's *Proust and Signs* science fictionally (1964). It is in *Proust and Signs* (2008), that Deleuze develops his ideas on possible worlds. These ideas can also be found in different ways in *Difference & Repetition* and, later, in *The Fold, Leibniz and the Baroque* and especially in *What is Philosophy?* as has already been discussed in the philosophical preliminaries in the introduction to this thesis. In *Proust and Science Fiction*, the pataphysician Jean Ferry proposes that the structure of the narrator's visit to Jupien's 'hotel' involves passage through a fourth dimension. This, to Ferry, is necessary to accommodate the narrator's movements, concluding that the narrator (as the writer, Proust), must make use of time-travel (a time-portal) to be in two places at once (at the hotel and writing an account of the visit simultaneously) and to successfully conceal his identity, as both the visitor to the hotel and the narrator. Andrew Hugill (2012:73) suggests that parallel universes are pataphysical in concept: "*Did not Faustroll define the science of imaginary solutions as describing a world which one cannot see yet which perhaps one could see in place of this world.*" Hugill appears to be citing Paul Gayot in *Subsidia Pataphysica N^o. 22 Varia*, (1973). The title of the source referenced is given as *Pataphysique et science-fiction*. Hugill notes the ambiguities of pataphysical sources and of similarities with the methodologies of J-L Borges and de Quincey and the displacement of the terms of the title of Gayot's essay, '*pataphysique, science et fiction*'²³¹ is subtle yet significant. For the most part Gayot's essay is on the science fiction of Robert Sheckley, a future editor of OMNI magazine which carries cyberpunk resonances. Omni was lavishly illustrated and though OMNI is some years distant from Gayot's essay, in its publishing articles on emerging technologies, as well as

²³¹ I am grateful to Alastair Brotchie of the London Institute of Pataphysics and Atlas Press for providing a source of this essay from his personal archives.

parapsychology²³² and including texts by Freeman Dyson, Alvin Toffler and the fictions of writers including W.S Burroughs, William Gibson and Julio Cortazar, a thematically associable short-list suggestive of the futurological, cyberpunk and pataphysical²³³ interest, is in full syzygy with the nomadic plane of this thesis. In *A Useless Guide*, Hugill attributes a study on Isaac Asimov and future history to one Jesus Borrego Gil and alludes to the possibility that this is, in fact, J-L Borges in anagrammatic pseudonymic guise. The essay is on the fictional character Hari Seldon and the (fictional) science of psychohistory, a statistical prediction of future events from Asimov's *Foundation* series of novels. Hugill similarly attributes 'Gil' as author of an essay on H.-P. Lovecraft, in *Subsidia Pataphysica* N^o. 11. 2nd February 1971. A comparison of this with the Lovecraftian short story published under Jesus Borrego Gil's other name, Jorge Luis Borges, *There Are More Things* (1975) reveals that these claims entail, and parody, Lovecraft's four-dimensionalist and geometric pathologies.

²³² *Cosmic Trigger Volume III* amongst the texts for those readers of OMNI imbricated in the cybernetic and cyberdelic, includes reference to pataphysics in its anecdotes of the counter-environmental technologies of 'patapsychology' (Wilson, 1995:229).

²³³ For the, admittedly obscure, reference to Cortázar here as pataphysical see Castro-Klarén 1975.

3.5.0 SYZYGY #5:

PATAPHYSICAL AND DELEUZO-GUATTARIAN UTOPIAS

Utopia isn't the right concept it's more a question of 'fabulation' in which a people and art both share (Deleuze 1995:174).

In *Speculative Everything*, although not in *Hertzian Tales*, D&R introduce utopias of political philosophy. Deleuze & Guattari had defined the utopian impulse, as a form of critique, as that conjunction of philosophy, or of the concept, within the present milieu (Deleuze & Guattari 1991:100). This utopian impulse of Deleuze-Guattarian philosophy involves a resistance to the present by calling for a people to come. Indeed, they say *'the creation of concepts in itself calls for a future form, for a new earth and people that do not yet exist'* (1994:108). A post-utopian thinking is rendered in the dystopian science fictions of *Speculative Everything*. These are characteristic of a post-millennial tension and the exhaustion of the future in the decades straddling the turn of 21st century. This pivots around the vexed question of the 'criticality' of critical design, and upon this dystopian/ post-utopian hinge exposes this thesis to its own conflicts. This is expressed in various cultural registers – as a sense of lost and failed futures (Berardi, F. 2011; Fisher, M. 2014). and in the conflict between the left, (Srnicsek and Williams 2014; Negri, A. 2014; Terranova, T. 2014), libertarian (Land, N. 2014a; 2014b) and unconditional accelerationism. There is an ambiguous accelerationist commitment of speculative design: it must be committed to go further still (Deleuze & Guattari 1977/2000:239-40) and there can be no doubting its continued commitment to speculative thought, to the becoming of technical objects and to dematerialisations of things.

Concern over a post-industrial utopian impulse can be observed in continued dependencies on the negative thought of Hegel across the Exegesis. Yet where D&R are found to frequently exhibit a desire to escape the powers of

‘negative thinking’ they also seem reluctant to admit the affirmative thought of accelerationism. Indeed, to admit this affirmational thought would require criticality of the conceptual function of design, which greatly impacts consideration of practice-based research as conceived by this thesis. Instead, Dunne & Raby have turned from the post-structural to the analytic, to developments in modal logic, principally the literary theories of Lubomír Doležel on fictional and possible worlds.²³⁴ Prior to that turn, in *Hertzian Tales* the negativity of D&R’s critical design thinking is at root that of the political philosophy of Herbert Marcuse whom they cite across the phases of their *exegesis*. Despite attempts to distance their position with respect to the critical theory of the Frankfurt School, Marcuse is a constant presence. Whilst there is therefore some consistency with the Marxist utopian analysis they cite in Eric Olin Wright’s *Envisioning Real Utopias*, what is overlooked is the pataphysics of technology implicit in Marcuse’s utopian aesthetics. Andrew Feenberg, one of Dunne’s sources on Marcuse in the *Exegesis*, argues for a reading of Marcuse interpreted, through his Marxism, for a critical technological culture. From the real utopias contained in *Speculative Everything* it must be noted that an effect of what Deleuze and Guattari describe as the impact of Baudrillard in “*demobilising people, turning them away from political action*” seems to prevent D&R expanding from Marcuse²³⁵ to a utopian thought closer pataphysics. Foremost is Marcuse’s dedication to the utopian thought of Charles Fourier and, in turn, the utopian interest of Raymond Ruyer²³⁶ in the architectural model of Fourier’s model societies the *Phalanstère et Harmonie Universelle*²³⁷.

²³⁴ The NCRP’s Hyperstition and the New Weird seminars (Yannick, Tony & Ben Woodard. 2014; 2015) and my visiting research fellowship have been instrumental to my personal encounter with CCRU members and the divulgence of its accelerationist ideas.

²³⁵ See ‘*The Mirror of Production*’ (1975) for Baudrillard’s negativity toward Marcuse; and see Kellner (1984) for a balanced account of Marcuse and Marx.

²³⁶ It is worth highlighting at this point that Ruyer was amongst the process philosophical lineage of Gilles Deleuze. Ruyer is influential, along with the thought of Gilbert Simondon, to Deleuze’s development of the concept of individuation. see Bogue 2009.

²³⁷ As far as Fourier’s utopianism is concerned one observation must be made. This is that *Faustroll* was written in Jarry’s so-called ‘phalanstère’ so named after the architectural model of Fourier’s model societies.

Ruyer's sense of utopias as 'possible laterals' provides a strikingly pataphysical concept and the utopian literature surveyed in *L'Utopie et Les Utopies* (1950) includes many of the equivalent books of Faustroll.²³⁸ It is also significant to the themes of this thesis that Michel Carrouges, whose post-surrealist research on bachelor and pataphysical machines are important gaps in the lineage of architectural fiction in the *Exegesis* of speculative design, had read Ruyer's *La cybernetique et l'origine de l'information* (1954).²³⁹

Raymond Queneau, The Surrealist, Pataphysician and founder of the Oulipo a department of the Collège de 'Pataphysique, is also a translator of Marcuse and of American and British science fiction into French.²⁴⁰ Queneau, at one time, sought a pataphysical equivalence between two Fourier's: Charles Fourier the utopian in question and the mathematics of Joseph Fourier – via the Fourier Transform which bears their name, but is named after the latter. Charles Fourier's utopian inventiveness is the *Fourierism* that includes quite pataphysical futures in which the 'seas are lemonade' (Bey 1991). A Syzygy exists therefore between Fourier's utopianism of 'universal analogy' in which the parts of possible worlds and a pataphysical tenet of equivalence might be sensed in the 'possible laterals' of Ruyer and the possible worlds of art described by Marcuse - and to the concerns of the *exegesis*:

The world of a work of art is 'unreal' in the ordinary sense of the word: it is a fictitious reality. But it is 'unreal' not because it is less, but because it is more as well as qualitatively 'other' than the established reality. A fictitious world, as illusion (Schein) it contains more truth than does everyday reality. Marcuse, The Aesthetic Dimension (1978:54).

²³⁸ Ruyer also refers to the science fiction Olaf Stapledon's *Last and First Men* and Fred Hoyle's *the Black Cloud* which are amongst the Anglophone SF works in translation produced by members of the Collège de Pataphysique and the Oulipo.

²³⁹ Carrouges owned a copy of the book.

²⁴⁰ On the translation and reception of post-war American science fiction in France see for example: Gouanvic (1997) who, notes contributions to the translation effort by Vian, Queneau and Pilotin. Gouanvic does not concern himself with this, but each of these are members of the Collège de 'Pataphysique.

The devices of Speculative Design, the Surrealist object, and the pataphysical machine, as well as Ruyer's utopian concepts might be considered forms of *thought experiment* in which blocks of reality become the atomised parts of possible worlds available to combinatorial re-arrangement. In the semiotics of the pataphysician Italo Calvino, such an atomist thought as this appeals to the concept of the clinamen. Whilst it also appeals to the Deleuzian assemblage, which can be added to, subtracted from and combined into further arrangements ad infinitum, the clinamen, Calvino connects with Fourierism in his essay "The Utopia of Fine Dust".²⁴¹ In Modena's translation of this essay, Calvino suggests combinatorial utopias, produced by autonomous logico-fantastic machines, raise critical awareness of reality and the political capacity to image/create alternatives.

Further to the above, there are two aspects of Marcuse's thought pertinent to the argument of this thesis. The first is a sense in which a fictitious reality is both unreal and more real than real. A second is the ways in which this making of fictitious realities is considered a machine in *One Dimensional Man*. This is doubly interesting to this thesis for its informing Baudrillard and for its being influenced by the ideas about technogenesis of Gilbert Simondon,²⁴² ideas that are shared with the philosopher Gilles Deleuze. There is a genealogy to the work of Gilles Deleuze and Félix Guattari which involves the ideas of Simondon and Bergson's notions of relations between matter and indeterminacy. These interests, might be shared by radical designers and speculative designers, extending to the functioning of their technographies; as well as for designers of paranoid electronic devices, just as much as by Duchamp and Jarry, relations between matter and indeterminacy might be elaborated in the kind of world-building, the species of designing worlds-in-

²⁴¹ *L'utopia pulviscolare*, in *Saggi, 1945-1985*, ed. Mario Barenghi (Milan: Mondadori, 1995) For a development of this in translation see, Modena 2011.

²⁴² For a discussion of the relation between the thought of Marcuse and Simondon see Feenberg 2017.

the-making, or in the making of worlds-of-becoming, of Gilbert Simondon. Which is to say, designing with the temporality, spatiality and modulation of matter as productive of new technical objects; configuring in science-fictional devices new pataphysical subjectivities with a Deleuzian objectile that will be more fully mobilised in Part Four of this thesis *Objectile & Clinamen*.

3.6.0 SYZYGY #6:

DELEUZE AND DESIGN

Metallurgy is the consciousness or thought of the matter-flow, and metal the correlate of this consciousness ... Artisans are those who follow the matter flow as pure productivity ... Because metal is the pure productivity of matter, those who follow metal are producers of objects par excellence. (Deleuze and Guattari 1996: 411).

Gilles Deleuze provides little access to his thoughts on design, but at the very least what is sensed is an antipathy or even negativity towards design for its making false claims to the creation of concepts. Aside, that is, from praise for Robert Gie, "*the very talented designer of paranoiac electrical machines*" (Deleuze and Guattari 2000: 17). The paintings depicting the design of influencing machines by the schizophrenic Robert Gie, including his *Distribution d'effluves avec machine centrale* (1916), resemble bodies inextricably connected to energetic, temporal and material systems. Deleuze and Guattari, in this passage from *Anti-Oedipus*, draw on Tausk's *On the Origin of the Influencing Machine in Schizophrenia* (1933), which portrays a world where everything is a machinic operation of flows and breaks, syntheses with and interruptions of other machines. Could Deleuze and Guattari be speaking of a speculative design to come, or reference then contemporary radical design in this interest in paranoiac machines? And in the coupling of the latter with Duchamp's artistic desiring machines, and the conceptual naming of its parts as necessary to the production of the new, do Deleuze-Guattari speak of design as an assemblage convertor of speculative productivity? When they say of such combinations of machines:

"The rule of continually producing production, of grafting production onto product, is a characteristic of desiring machines" (Deleuze and Guattari 2000: 7), is it not the same for the prop-makers, whether of speculative design or of the cinema in their desire for time machines, wish machines, and telepathy

machines? This, then, is where the trajectories of paranoiac electrical machines; the naming of parts of Duchamp's Large Glass; and the speculations of designers as thought experiments, a generalised and we should by now be in no doubt, pataphysical, practice intersect. This is speculative Design's pataphysical science of the artificial, and its intersection with the design of ready-made, standardised items and industrialised components; with Cache's concern with the 'norm' and the parafunctional aspects of the exegesis (2005:43).

If there is an absence of any significant consideration for designer or for designing in Deleuze's published thought (alone and with Guattari), then there is equally little that Deleuze says directly of the designed artefact. More specifically in the context of what follows, there is little said of the expression of the kind of electrophysical material of the tube-tracts of speculative culture in the science fictions of Cinema 2. Regarding the designed artefacts of speculative culture and the technical media, together with the burgeoning of computers and digital networks, or the cybernetic cultures concurrent with his own creative output Deleuze was strangely silent, until the small essay *Postscript on the Societies of Control*. This silence has led media theorist Alex Galloway in *Computers and the Superfold* (2012) to describe Deleuze, with punning irony, as the 'analogue' philosopher par excellence, for the influence of Deleuze on a generation of digital designers and media theorists in the latter part of the twentieth century was in fact significant.

Galloway also suggests that Deleuze's 'Postscript on Societies of Control' entails a host of acceptances of conditions contingent to the control society. To the contingencies of these conditions, amongst those conditions suggested by Galloway, should be appended speculative design's allegiance to the production and consumption of science fictional signaletic material. We might also add to such conditions the sense that Deleuze's perception of the control society draws from William Burroughs's occult protocols of cybernetics, and the sense that it is within such conditions that vital and

complex topologies of aggregation and disaggregation emerge. In this respect, we should propose Deleuze and Guattari's own reference to the flows and counterflows of *Anti-Oedipus*. This recollection of *Anti-Oedipus* and its conjuring of new sensations, affects and percepts, of its '*Burroughs experiment*', (2000:370) and more generally of a material experimentation of Simondon and of the objectiles of Rauschenberg made with the assistance of Billy Kluver and Experiments in Art & Technology.²⁴³

²⁴³ David Greene foregrounds Archigram's interest in Kluver's E.A.T in LAWUN #19, and this of great interest to the sense of a speculative pragmatism and a convergence of material (media) and thought experiments (conceptualism) developed here.

3.7.0 SYZYGY #7

A PATAPHYSICAL REALM: HERTZIAN SPACE & THE PATAPHYSICS OF GHOSTS

Dunne's naming of his interest in the spatiality of electronic objects in ambiguously spectral terms as a 'realm' not to mention the spectral projects described by Dunne in *Hertzian Tales* and included in *Design Noir*,²⁴⁴ conjures up reference to haunted-objects and haunted media. (Sconce) One of Dunne's more pataphysical suggestions is that haunted objects might replace haunted houses which, this thesis suggests, puts into confluence Rene Daumal's *Pataphysics of Ghosts*, and *Ghosts/Phantoms* by founding member of Archigram, Warren Chalk.

Fred Scott's exploration of the lost village of Tyneham Gap,²⁴⁵ conducted for the Architectural Association, Patrick Wright (364) associates with David Greene's Bottery and 'cybernetic forest', in which 'the temporary placing of bits of hardware in the natural scene' conjures intertexts of architecture and the electronic device as host. Another suggestion by Chalk, is that architecture is a hoax inhabited by the 'phantoms of the future'. Reminiscent of Fisher's 'ghosts of his life' these architectural hoaxes are also rendered as an obsessive looping hauntology²⁴⁶ of cold war sci-fi, in the cinematic mannerism of speculative design's interest in Godard, Resnais and Marker, as much as in the speculative graphic design of the fabricated village of Belbury mixing as it does a sense of electronic culture and Nigel Kneale's pastoral science fiction, and the positive feedback of lost futures of the cinematic ruins in Thomson and Maglioni's *In Search of UIQ*. All this conjures too, what Craig Baldwin images in *Spectres of the Spectrum*, influential in architectural and media artistic contexts, featuring in Dunne & Raby's

²⁴⁴ That is, up until the submission of practice-based research to RAE 2008

²⁴⁵ for a scholarly and entertaining account of this expedition see *'They Came in Through the Bathroom Window'* (Wright 1995).

²⁴⁶ Fisher *Ghosts of My Life* (2014); (Derrida 1993).

exegesis. Dunne's haunted-objects unfold in Mark Fisher's and Patrick Keiller's mutual referencing of the cold war SF television series *Quatermass*.²⁴⁷ Fisher's interest in Lovecraft, Machen and *The Stone Tape* signal psychogeographies of a pastoral-electronic R&D, evident in the architecture fiction of Robin Evans's *Piezoelectric Structures*²⁴⁸ as well as David Greene's *Botteries* and Shin Egashira's nomadic media machines²⁴⁹ each of which pre-figure in Dunne's interest in the 'landscape objects' of Architecture Association students. There also seems to be a reflexivity between the architecture fictions of the AA's Shin Egashira and the terminology of Critical Design in Egashira's adoption of 'script' and 'scenario' and the construction of props as well as in his use of the phrase *real fiction* (2004). Dunne's use of this phrase in 1996 is written in the context of his discussion on Conceptual Design and its relation to Conceptual Art and should be considered alongside Greene's contemplation of Kosuth's *Art and Philosophy* each of which are problematised by the schizoanalysis of speculative design as science fictionally pataphysical offered by this thesis. Furthermore, an assimilation of the weird by the speculative, one that Fisher twins as *The Weird and The Eerie* (2016), as a mode/genre of pataphysical fiction provides a tangential but compelling expression for speculative design of a lost cold war modernity, its sense of the unknown and its missing people.²⁵⁰

If speculative design exhumes its critical mode, then it might pay more attention to visionary architecture and radical design as it coalesced around the 'little' magazines, the print culture of radical design and architecture might then become something of a resource and a site for speculation. D&R incorporate such works in *Speculative Everything* more so than in the earlier

²⁴⁷ Fisher (2016); Kieller (2012)

²⁴⁸AA Archives.

²⁴⁹See Egashira's collaboration with cosmologist Andrew Jaffe in their partial reconstruction of Jarry's Time Machine included in the AA exhibition *Beyond Entropy* (2011)

²⁵⁰ The reference is again to the missing people as a becoming, in which they might invent themselves (Cinema 2:208-215).

exegesis, a symptom of the wider cultural concern with lost and suppressed futures of modernity. At the same time this hauntological and signaletic dimension, in graphic objects and design fiction, seems present in the ongoing concern of British art and design researchers with the legacies of the cold war and in which the 'dividual' computer operator and science fictional concrete missile silos converge in architectural fictions of the 'peculiarly English'. This is exemplified as much by a pataphysical interleaving of *Robinson in Ruins* with its echoing of the electronics era of Quatermass or the Stone Tape, as by the eerie pastoral of the village of Belbury in speculative graphic design:²⁵¹

a tradition of British science fiction, where you've got on the one hand the setting of a very traditional background, with very ancient things, but you've got this weird, cosmic stuff happening at the same time. A lot of old British sci-fi books - John Wyndham for instance - have these really mundane, quaint little village settings, but all of a sudden something really freaky and cosmic appears in the middle of it Jim Jupp 2009.²⁵²

All this might appear somewhat anachronistic or overly mannerist, and might appear terribly incongruous when discussing the design research of possible futures of tomorrow. However, there is something here in both the tendency within literature and media to describe temporal paradox *This is Tomorrow* (1956), *Tomorrow Now* (2008), *After the Future* (2011), and what Peter Ackroyd (2004) has termed the 'english imagination', something not so much British as European. Barry Curtis once noted that something close to these temporalities could be found in the practices of the Independent Group, citing Michael Bracewell's observation of these as "*simultaneously futuristic and*

²⁵¹ Quatermass II. B.E.R.G. and *Robinson in Ruins*. to make this syzygy explicit note the inclusion within *Robinson in Ruins* of reference to the fictional British Experimental Rocket Group of the British television series Quatermass.

²⁵² <https://www.cyclicdefrost.com/2009/04/belbury-poly-interview-by-emmy-hennings/>

nostalgic, a sense of Englishness which had one foot in the future and one in the past, one half of the brain engaged with the banality of everyday life in rainy old England, the other pioneering within extreme states of mind to bring back reports from the edges of consciousness." (Curtis 2004:51).

The temporal 'preferences' of which Dunne writes and illustrates, in the 'futures cone' and in the notion of 'value fictions'(Dunne 1997:89, 94), may well be psychoanalytically rather than pataphysically motivated: in search of a lost modernity. The value fictions of instruments Jarry invents, though, are value fictions of other dimensions, made possible through the access afforded a plurality of 'supplementary' worlds. This is to say, that in Dunne's taking care to avoid slipping sideways into the temporal traps of science fiction and the fantastic, he nonetheless cannot help but become entangled in long-nineteenth century imaginaries of ether, telepathy and influencing machines. Sam Jacob, in Greene's LAWUN # 19, locates Greene's oeuvre in ideas about the oscillations of waveforms linking 'the modern invisible' with the communist manifesto "*all that is solid melts into air*" and Freud's exploration of the subconscious the techniques of an invisible realm.

For Sterling, the preoccupation with a realm of Imaginary Media also remains within a psychoanalytic framing, which further develops from his interest in media theories. In association with European media art and tactical media communities Sterling develops his ideas in encounter with media theorists, including Eric Kluitenberg (2006 and 2011), where the notion of a pataphysical and imaginary media intersect.²⁵³ Sterling, in developing the notion of atemporality juxtaposes the books of Freud, Lovecraft and Baudelaire, as if to underscore this point.²⁵⁴ However, it is a schizonalaysis of speculative design which exposes it to a relation of its devices with the weird

²⁵³ Where Sterling had asked "How you make a design fiction for media philosophers?" in his own post design-fiction writing, both the non-fiction and SF, he responds to his own question including reference to Jussi Parikka and Friedrich Kittler in his own fictions as if in their media theories, Sterling's speculative design scenario might be rendered.

²⁵⁴ Sterling's image archive source, is discussed by him in Atemporality & the passage of Time (2010)

and eerie futures of the paranoiac,²⁵⁵ as well as to the desiring and miraculating machines of Duchamp and Jarry. The bachelor machines of Carrouges or those of W.S. Burroughs and the similarly isolating faraday cage of D&R's projects, are no more or less paranoiac than these.

Furthermore, we can apply what Steven Connor describes in his introduction to his *psychotechnographies* as a class of *cyberneiric* machines to Dunne's electromagnetic devices, as dreaming and leaking host-objects and para-sites (Connor 2017). Speculative instruments, such as those of Dunne & Raby's *Hertzian Tales*²⁵⁶ communicate with a realm pataphysicians might pun as the realm of ghosts following Jarry's own references to telepathic communication with the *latent obscure*. The artefacts of speculative design, then, not only face the criticism of those against the idea of research objects 'speaking for themselves' but for this insistence on speaking to us from-beyond or channelling voices from the *latent obscure*. As if all this were not already to go beyond the pale, in *Hertzian Tales* but not in later texts, Dunne directly recalls – and outside of a Baudrillardian frame – the pataphysical space of Jarry (2005:53) as:

a realm where machines do not simply mirror rationality through nonsensical functions but embody alternative physical laws to ours.

The significance of Jarry's *Latent Obscure* (1996:101), if treated with respect to symbolist treatments of landscape describable in voyages and journeys recorded not in itineraries and logbooks but books of equivalences (Fisher, 2000), is to melancholic references to the unknown and to obscure realms of dreaming, telepathy and death. It is tempting to resort to forms of anticipatory plagiarism, as have others, in bringing to Jarry a Freudian psychoanalytic

²⁵⁵ Dunne's paranoias of the cold war are not solely those of the huggable mushroom cloud, but of HAARP and the futurology of strange weather and perceptions of anomalous cognition. see Ross 1991.

²⁵⁶ Brautigan's *All Watched Over by Machines of Loving Grace* is amongst Greene's poetic sources.

dreamwork of this latency and obscurity. Fortunately, Nicholas Royle (1991) and Roger Luckhurst (2002) already outline questions of telepathy and psychoanalysis which it might be useful to briefly rehearse in relation to Speculative Design.

The speculative design process is one of transporting the 'now' of the present, into another time, into the temporalities of the future as well as of dreams and memories. It appears that speculative design deals with time in this transitive way. Indeed, in writing of the future D&R open the Exegesis of *Speculative Everything*, with a melancholic passage on the downward transitivity of the temporalities of dreams 'downgraded' to the future as but a hope or wish. As if, in treating the future as an object, as what Korzybski called 'time-bound' rubbing up against Freud's description of psychoanalysis as 'time-consuming', that *the future* of speculative design had begun to obsolesce as the futurological one. Hope, for the future as fantasy, as anticipation, or as a preference for the suspension of time and desire, becomes its own exhaustion and excess. Psychoanalytic time is complex and varied (as much as it is time-consuming) in a context where paleofutures and the suspension of futurity coalesce as the atemporal. Sterling and Dunne diverge with respect to Freud's linear concept of time; the positions of Sterling and Dunne in their respective philosophical orientation bifurcate about this point, though neither Sterling's atemporal nor D&R's dreaming hopefulness, participate in the treatment of memory or futurity as narrative in linear succession as does Freud. Furthermore, Alfred Schütz's 'wide-awake' imagining of the *as-if*, to which he refers in his paper *On Multiple Realities* (1945) provides a direct reference to Hans Vaihinger, whose fictionalism D&R find of value to their own developing argument about preference in possible and fictional worlds. Rather than characterise makers of design fiction and speculative designers as Freud's dreaming analysands, then, they can be counter-posed with Schütz's 'wide-awake' actors operating on multiple realities.²⁵⁷ The concept of

²⁵⁷ Schütz, A., On Multiple Realities, *Philosophy and Phenomenological Research*, Vol. 5, No. 4 (June, 1945), pp. 533-576. For the Bergsonian influence here see Wagner, Helmut, R.

time for the speculative designer, wide-awake and operating in the pataphysical imaginary present, as modified by Jarry, would be closer, then, to Bergson's model of time and duration.

Speculative designers proceed, as is clear from *Speculative Everything* and the wider literature, by making counterfactual claims. Sterling, and D&R, each reference Coleridge's 'suspension of disbelief' in this respect, as a way of managing such imagining of the counterfactually possible. This accords with Schütz in that it is not necessary to believe in a topological continuity with reality. Realities are multiple and what is necessary is for the counterfactual to be entertained as real, or, paraphrasing what Vaihinger terms *as-if*, can be taken as being performed as real and applied in pursuing the imaginary solution.

To return to our discussion of Jarry's realm of the *latent obscure*, it will be useful to say slightly more of the research of Michel Carrouges who, following his influential essay on *Bachelor Machines* (1954) sustained a lifelong investigation of further pataphysical machines. Two texts, *Machines Pataphysiques Pour L'au-Dela* (1985) and *Les Machines Pataphysiques De Maldoror Et Leurs Groupes De Transformation* (1986), translated into English from the original French in preparing this thesis, are extensions of Carrouges's scholarly interest in *Bachelor Machines* to more directly engage the machines of pataphysics. This material is used in this syzygy to offer further reflection upon the inclusion of Carrouges pataphysical machines in Deleuze and Guattari's *Anti-Oedipus* and the claim to a pataphysical milieu and mode for Deleuze's 'science fictional' books of philosophy. In *Machines Pataphysiques Pour L'au-Dela* Carrouges names the pataphysical realm the 'beyond'. This puts Jarry's spatiality into a peculiarly lateral proximity to a

(Dec., 1977) The Bergsonian Period of Alfred Schutz *Philosophy and Phenomenological Research* Vol. 38, No. 2 , pp. 187-199, where Schütz's phenomenology is informed by Bergson's philosophy of *durée*.

Lovecraftian realm²⁵⁸ also referred as *the beyond* and familiar to French science fiction studies critical of the dominance of anglo-american SF in France, as Carrouges certainly was through his critical friendship with Michel Butor (1953).²⁵⁹ The pataphysical machines Carrouges identifies, probe space-time in a way that is the crux of the matter.

If the 'beyond' expresses the transcendental aspect of the possible pataphysical world, then, between the supplementary plurality of worlds is a kind of difference already noted by this thesis of the modal logic of possible worlds and David Lewis claims exists between two people "*if one inhabits a Riemannian and the other a Lobachevskian spacetime*" (2001:16). This relation brings together Lewis's ideas about possible worlds, Jarry's fictional worlds of possible universes 'supplementary to this one', and Carrouges's sense of 'the beyond' considered in its lovecraftian sense of the horrors of abstraction in higher dimensional spaces.²⁶⁰

3.7.1 Eternity and Hertzian Space

What is the relation between Hertzian Space and the pataphysical 'realm' of the science of imaginary solutions? Whilst Dunne does not clarify this directly, his reference to Vaihinger is helpful here as he would recognise as 'useful fictions' the scientific facts upon which D&R depend for their speculations:

²⁵⁸ The allusion is to Lovecraft's *From Beyond* – Lovecraft was a familiar American reference for French studies on the science fiction subgenre. See for example Fitting 1974. Carrouges was familiar with Michel Butor, whose account of the *Crisis in French Science Fiction* (Butor 1953) he and Deleuze had both read. Butor was a friend to both Deleuze and Carrouges. Carrouges also contributes science fiction tales to *Fiction* magazine.

²⁵⁹ Butor was a mutual friend of Carrouges and Deleuze. Butor is amongst the reference of *Difference & Repetition* (2004 ed.), cited for his work on Roussel p34n14.

²⁶⁰ Tom McCarthy's *the International Necronautical Society* is an exemplary reference for speculative design here, if only for the commitment of its members in asking for a vehicle with which to access the beyond, and for the sense that this society might house a pataphysical laboratory within which its members might labour to invent such machines. <http://www.necronauts.org> see also Manganelli (2016).

Although technically a fictional world can be impossible and incomplete, whereas a possible world needs to be plausible, the limit for us is scientific possibility (physics, biology, etc.) everything else – ethics, psychology, behaviour, economics, and so on – can be stretched to the breaking point. Dunne & Raby 2013:71.

It is the sense of veracity afforded by the scientific instrument which defines reality for Dunne's value fictions. These technical objects are only possible in the same way that the technological implications of a run-away-science are possible for speculative fiction novelists. However, as well as being imagined as possible, the interest in the value fiction of electromagnetism in the early *Exegesis*, at the very least toys with the pseudo-scientific as well as posing pseudo-problems. If this can be accepted, then the pataphysical *eternity* provides a potentially 'useful fiction' of Jarry's temporalisation of the already spatialised Aether of the nineteenth century as an eternal substance and medium. Very much a plane of invention, the aether was inextricably linked with scientific theories of great moment for the twentieth century and on the cusp of rational and irrational modernities. At the time that Jarry wrote *Faustroll* and *Time Machine*, a nineteenth century scientific culture was on the verge of transforming the notion of the aether from the useful fiction of science to that of an imaginary science of fiction and one of seeming continuing interest for the inutilitous machines²⁶¹ of post-war pataphysicians and speculative designers.

Without wishing to revisit the scholarship on the aether as possible, the following unpacks some of this overlapping of imagined and imaginary in the nineteenth century fin-de-siècle, to give due consideration to Jarry's imbrication of pataphysics with a technical milieu of the aetheric, telepathic and telegraphic. There are materialist implications for the *Beyond* here, for there are many tell-tale traces of telepathy in fin-de-siècle France as Roger

²⁶¹ See for example the discussion on inutilitous and innocent machines in the call for submissions of the London Institute of Pataphysics Department of Patentry (2003).

Luckhurst locates the years 1870 and 1901 as the time of its invention (2002). In making these observations the primary interest is in spatiotemporalities of the nineteenth century 'pataphysical realm' as interleaved with the diegetic space of D&R's projects of their Design Noir era, but the following gives some address to errors of omission in recent cultural histories of the aether and telepathy and rehabilitates Jarry and pataphysics in these histories.

Scientific ideas about the aether and about telepathy were prevalent at the time of Jarry's writing *Faustroll*. Faustroll's imaginary science might bear-up under scrutiny as experimental if it were not for the occult dimensions attributed by him to the imaginary realm. Linda Dalrymple Henderson's *Vibratory Modernism* notes that Albert de Rochas, the French parapsychologist, appends to his 1895 *L'extériorisation de la sensibilité*, references to Oliver Lodge. Lodge, in turn is said to cite Maxwell's assertions of the fullness of the universe with a '*wonderful medium*'. Paul Nahin (2001:375. n.20) went so far as to claim William Crookes alerted Lodge to Jarry's *Time Machine* in 1899. Although this seems unsupportable,²⁶² there is no reason to doubt such a remarkable pataphysical syzygy.²⁶³

Dunne's Hertzian Tales is to be noted in respect to this syzygy for its circumvention of connecting its speculative mode of design with an invisible technological realm, behind which lurk occult histories of wireless telegraphy and electromagnetism. This is to say, Hertzian Tales invents spectral spatialities of the electromagnetic spectrum and superimposes these over the 'wired' world as its plane of composition, thus conceiving the aether as a double.²⁶⁴ Hertzian space, then, is implicated in a re-entry of the term 'ether' into popular discourse thus associating it with the dematerialisation of

²⁶² I have been unable to find the letter, dated July 7, 1899, Nahin claims to be held by the Society for Psychical Research and which he cites as evidence.

²⁶³ Lodge's *Ether of Space* (1909) would have preceded the publication of *Faustroll* by only two years.

²⁶⁴ I am grateful to the artist Martin Howse for use of this expression and for his exemplifying the gothic electronic potential of this.

communications technologies, electronic objects and architecture and the Hertzian Space of critical design.

But consider this: a searing, transformative Hertzian wave of broadband permeates everything around me! Sterling 2010.²⁶⁵

Critical Designers perfectly undertake roles, assigned by Deleuze and Guattari in their *Anti-Oedipus*, to talented designers of ‘paranoiac electronic machines’– they fulfil these roles so perfectly that they, together with their make-believe props, cannot escape the influence of machinic and aetheric forces. The effect of Dunne’s counter-posing scientific truthfulness, with a science of imaginary technical solutions, rather than being contradictory, serves to complexify the Hertzian with the objectiles/subjectiles of P.K. Dick and of J.G Ballard. The suggestion of this research is that we append to this complexification of the *exegesis* the pataphysical machines identified by Carrouges and listed by Deleuze and Guattari in *Anti-Oedipus*, those certain machines of Poe, Roussel, L’Isle Adam, and Jarry.

It is as if Dunne (and Raby) propose a speculative scenario in which Jarry’s parodying of the formal demise of the luminiferous aether is invoked for the objects of Hertzian Space. The effect is to fuse the reconstruction of an atmospheric electromagnetism with a dissociated unconscious. This is to say, in the psychoanalytic terms that would be familiar to the pathological anxieties and phobias of users and abusers of objects in *Hertzian Tales* and *Design Noir*, sublimating the hertzian modulatory power in speculations on dreaming objects and pataphysical machines.

Rene Daumal writes that pataphysics “*Explain[s] the Universe parallel to this one. This ‘parallel universe’ is the inside out world where the dead and the*

²⁶⁵ First published in *ICON* February 2010 retrieved from <https://medium.com/@bruces/the-hypersurface-of-this-decade-by-bruce-sterling-2010-e88f47924157>

dreamers go..." (1995:31). The material substrate of computation and speculative electronic objects, the inside out world of *Hertzian Space*, pits the substance of silicon and the crystalline against the geographic as well as the telepathic and aetheric.²⁶⁶ Where Baudrillard had discussed the *Revenge of the Crystal*, for Deleuze it is a silicon-assemblage of 'modern machines, a genuine non-organic life' which seeks its own revenge. This brings to the fore Roger Shattuck and Simon Watson Taylor's reminder to readers of their translation of Jarry, in *Selected Works*, that it should not be forgotten that *Voyage au Centre de la Terre* was one of Faustroll's livre pairs (1965:192), and to which we should also recall that Verne is amongst the 'inventors' of Carrouges's *Bachelor Machines*. Whilst this is quite an oblique direction to take, for it is certainly the case that Verne had no sympathy with telepathy, (Angenot 1973) it seems inescapable but to conclude that the invention of supplementary universes must first be acknowledged in the way that Halley, Euler and Symmes each held scientific belief, that the earth was hollow and that space was filled with an aetheric medium. These supplementary spatialities first introduce a concavity within which pataphysical machines might proliferate; second, they not so much invent an imaginary realm but sustain one which perseveres as an imagined scientific dimension. It should also be noted that as well as being a 'hollow earth tale', which Jarry perhaps turns inside out as a parallel universe, that Verne's tales were also those of a science of aether and that travelling to the centre of the earth involves the possibility of time travel (Serres 1975) an archaeological dimension of deep time familiar to the French fantastique of J.-H. Rosny, aîné and the American weird of H.P. Lovecraft. In *Asymmetrical Synthesis of the Sensible* (2004:208) Deleuze at first sidesteps J.-H. Rosny, aîné as a writer of fantastic fiction, foregrounding instead scientific interest in Energetics, which Deleuze describes, with Bergsonian inflection, in differences of speed and intensive qualities. However, "in his novels," Deleuze concludes, "*he invents a kind of*

²⁶⁶ See for example Parikka (2012; 2018) and Howes (Substrate 2015). Note that Sterling in fact includes reference to another of Parikka's media theoretical references – to insect media in his design fiction short story for the Institute for the Future.

naturalism in intensity which, at the two extremes of the intensive scale, then leads into the prehistoric caverns and future spaces of science fiction."²⁶⁷

3.7.2 Telepathy

Amongst the earliest instances of telepathic reading in fiction, must be that of Jarry's telepathic letters to Lord Kelvin Jarry has Faustroll write. Curiously absent both from Sconce's discussion of the spectral and from two significant accounts of literary and cultural histories of telepathy - *Literature and Telepathy* by Nicholas Royle and *The Invention of Telepathy* by Roger Luckhurst.²⁶⁸ The first of Jarry's two letters forms chapter 37, the first chapter of book eight, titled Eternity in *Exploits & Opinions of Dr Faustroll, Pataphysician*. The chapter is named in two parts *Concerning the measuring rod, the watch and the tuning fork*, and has a subtitle: *Telepathic Letter from Doctor Faustroll to Lord Kelvin*. In the passages contained in this letter, Jarry poetically misreads Sir William Thomson's - *popular lectures and addresses, vol. I Constitution of Matter*.²⁶⁹ Jarry's interpretation translates Thomson in ways that construct a supplementary universe, extending theories of matter by pataphysical means, whilst staying close to the original material. Simon Watson Taylor's translator's notes, included in 1965 and again in the 1996 Exact Change edition, compare passages from Jarry and Thomson. Watson Taylor identifies the measuring rod, the watch and the tuning fork, together with the luminiferous ether, rotating flywheels and linked gyrostats: objects described in scientific experiments to which must be added the machines of Oliver Lodge.

Although we know that Jarry was influenced by Bergson, his former teacher, to suggest that Faustroll's telepathic letters to Lord Kelvin were a result of

²⁶⁷ Deleuze 2004: 326.n2.

²⁶⁸ It would be proper to seek to address the gap on Jarry's place in these histories but I do not wish to make this my task other than providing these observations.

²⁶⁹ 2nd (enlarged edition), London, 1891, translated into French 1893.

Jarry's reading of Bergson's *Phantoms of Life and Psychic Research* would be to suggest that these were read, as Faustroll's letters were written: this is to say, posthumously, not so much telepathically but with a clairvoyant power and through the medium of what Daumal observed as the *Pataphysics of Ghosts*. Bergson's influence on Jarry may also account for Deleuze's noting²⁷⁰ "the importance of the telepath." (Deleuze (2000) Cinema 2:8). Moreover, the ekphrastic treatment of scientific spaces and the possible assimilation of the aetheric medium and the epicurean eidola, bears comparison with that of Jarry's ekphrastic simulacra in the case of the 'paintings' of his machine Clinamen. An ekphrastic text aims at describing, simulating or evoking a work of art and Jarry's descriptions of the machine Clinamen and its machine-produced paintings – we might also call them projections, as they are displayed, or 'ejaculated' in Watson Taylor's translation, onto the walls of the Palace of Machines and depend on symbolist imagery as if describing an actual painting of an actual landscape, rather than an imagined painting of an imaginary landscape. Jarry takes symbolist painting techniques to his prose.²⁷¹ Mallarmé, whose 'verse and prose' is amongst the livre pairs of *Faustroll*, and for whom Franco Berardi, in *After the Future* suggests colour, phoneme, image, and word are intended to act as mental change, as neurological emotion. Mallarmé, Berardi suggests, deals in the transmission of mental states "as a kind of telepathy" (Berardi 2011:21).

²⁷⁰ the reference is to Fellini's 8 1/2 and, therefore, the making of an SF film.

²⁷¹ On symbolist prose/painting see Kearns (1989).

3.8.0 SYZYGY #8:

PATAPHYSICIANS AND THE MEETING OF THE SITUATIONIST INTERNATIONAL AND THE INDEPENDENT GROUP.

Psychogeography, the study of the laws and precise effects of a consciously or unconsciously elaborated geographical environment acting directly on affective behaviour, subsumes itself, according to Asger Jorn's definition, as the science fiction of urbanism.

Khatib (1958)

"Pataphysician at twenty -- Situationist at thirty -- utopian at forty -- transversal at fifty -- viral and metaleptic at sixty -- that's my history" (Baudrillard 1990:131) Baudrillard entangles the pataphysics of his *Year 2000* with the spatialities characteristic of a psychogeographical turn in literature at the time Dunne was in his graduate studies prior to his doctoral thesis. If Dunne's encounter with Baudrillard's *imaginary technical solution* is pataphysical as is conceived by this thesis, this is also to simultaneously encounter the design science of its objects in a psychogeographical context. Furthermore, if as stated in the epigraph of this syzygy, psychogeography is the science fiction of urbanism, then it should also be noted that *Faustroll* involves a voyage to imaginary islands, one traveling from 'Paris to Paris' in a sieve and it is a "*philosophical sieve*", which Deleuze and Guattari describe as a "*plane of immanence that cuts through the chaos, selects infinite movements of thought and is filled with concepts*" 1994:118.

Ralph Rumney, British member of the London Psychogeographic Society at the founding of the Situationist International described the influence of pataphysics on the SI, and Faustroll's voyage does seem to portray a quite psychogeographic mode of travel. Debord and Ctcheglov suggested Edgar Allan Poe as psychogeographic with landscape, which is akin to claiming something to the effect that D&R are pataphysical with the gadget but in ways

which parallel Claude Lorrain (who was psychogeographical in his relation of castle and sea).²⁷² Claude's paintings and Poe's literary machines and landscapes, then, provide a map of possible relations between landscapes and (pataphysical) devices, and a map too, between these fictional devices of the veduta ideate, or the capricci, in a future history of architectural fictions and of what Dunne describes, in *Hertzian Tales*, as architecture's 'over use' of the object (1997:41).

There is something more that will need to be said about Jarry's methodological 'interleaving' of different spaces in the 'imaginary present' and the sense of the 'overuse' of the architectural object that we will need to come back to, but we can provisionally affirm this interleaving as anticipatory of the psychogeographic *dérive*, in ways which allow Jarry to be compared with de Quincey as precursory to psychogeography, and to bear comparison too with Blake 'godfather of psychogeography' (Sinclair 1997:214). In '*The Radical Gesture*' (1992), Sadie Plant makes discernible traces of Surrealist and Dadaist influence on the Situationist International and suggests Baudrillard reworks and weakens the situationist political position. Plant, like Rumney, acknowledges a debt of the Situationists to Jarry's pataphysics, although nowhere explicitly developing this informing her latent hyperstition. Nonetheless this places the SI, and although this was not Plant's intention, the psychogeography of Critical Design, in a well-documented line of dissent involving dada surrealism and situationist tactics and strategies as inheritors of the legacy of Jarry (Shattuck 1968).

The recuperation of Situationist tactics in the methods of D&Rs 'critique through design' owes much to the 'psychogeographic turn' in fiction of the 1990s, which faced, rightly, accusation of being de-politicised. (Daniels 1995) Patrick Keiller rebuked this de-politicisation of the literature as indicative of a wider loss of political agency of the *fin de millennium*. As if to compound

²⁷² Chtcheglov (1953) *Formulary for a New Urbanism*

things, is Dunne's appropriation of Baudrillardian psychogeographic tactics for critical design. However, with regard Speculative Design it is useful to recall the Baudrillardian influence and that Deleuze and Guattari felt that Baudrillard had de-politicised and demobilised people, "*turning them away from political action*".

British psychogeographers are not a major presence in the *Exegesis*, neither Sinclair, Petit, Moorcock nor Ackroyd, feature in the *Exegesis*, but Will Self's '*Book of Dave*' (2006) and Keiller's '*The Possibility of Life's Survival on the Planet*' (2013) feature in it. These should be taken as signalling a continuously operating psychogeographic influence in the *Exegesis*. Sinclair's longstanding interest in and friendship with Ballard (Sinclair 2007) is also significant to the pataphysical implications of this psychogeographic turn as is Sinclair's claiming of Blake as 'godfather of psychogeography'. The suggestion has been made that British urban psychogeography, as a variant of science fiction urbanism was concerned with a peculiarly English form of capitalism.²⁷³ This paradoxical and anachronistic political position is intensified in calls for a psychogeographic speculative design, as recently as 2016 McKenzie Wark is seemingly seeking models or combinatorial fragments of possible worlds or to construct pocket universes of lost futures, seeking to realize or actualise a Unitary Urbanism, and in ways which have the potential to exceed the instrumentalisation of radical political actions. For example, in United Micro Kingdoms D&R have transplanted their own eccentricities and proclivities, instrumentalised the science of imaginary solutions, whilst channelling Sterling's posthuman '*Schizmatrix*' (1996); whereas in Nick Land's *Dynamic Geography* seminar for the New Centre for Research and Practice (2016) the spatial models of sea-steading and NewSpaceX are psychogeographic with island utopias and the TAZ, and in the same way as the science fiction urbanism of New Babylon.²⁷⁴

²⁷³ For a development of this notion of a peculiarly English capitalism see Dave (2006); and for the nature of this peculiarity see Woods (1991).

²⁷⁴ my suggestions as a participant in Land's Seminar as part of my Fellowship with NCRP.

Rumney is one of the more marginal figures in Andrew Hugill's *'Pataphysics A Useless Guide* but rather more than this suggests we might assign a communicative function to Rumney for the circulation and transmission of pataphysical ideas to design culture. Though not himself a pataphysician or designer,²⁷⁵ Rumney frequented the intellectual salons of pataphysicians, Situationists and members of the Independent Group. In the orbit of the neo-avant-garde at the ICA and the Gaberbocchus Common Room, Rumney's interactions facilitate the exchange between pataphysical ideas and the psychogeographic, and anticipate the absorption of these ideas and their subsequent re-circulation.

Rumney's creation of the London Psychogeographic Committee, the imaginary organ he used as founder (and sole member) in the formation of the Situationist International together with Guy Debord et al, is not to be confused with any London 'Pataphysical institute and a cell of the Collège of 'Pataphysics had already by this stage been founded in London by the architect Stanley Chapman.²⁷⁶

Hugill foregrounds relations between SI psychogeographic practices, the *dérive* and *détournement* in relation to pataphysics and this is evident too in *Critical Design*. Hugill also notes the following remarks of Rumney, on the influence of pataphysics on the SI:

The Collège of 'Pataphysics was an influence on the Situationists. Debord hated anything which could be seen as having influenced him. He saw the Collège Of 'Pataphysics as a wretched little coterie. I

²⁷⁵ Although a likely involuntary pataphysician on the basis that one does not become a member – one is.

²⁷⁶ Stanley Chapman's considerable contribution to pataphysical architecture and the tectonic includes the Morris-like pastoral of his cover illustration for *Subsidia Pataphysica* with its spiralling motif and his 'invitation wand' for the pataphysical museum, London Institute of Pataphysics.

declined to become a member of the College because of the Situationists. I liked their publications, they had a coherence and a persistent line of thought running through them which if you look at the twelve issues of "Internationale Situationiste", is not there. ²⁷⁷

Rumney had worked in Paris (1951-5) and had links with CoBrA and the Italian tachiste Movimento Nucleare founded by the pataphysician Enrico Baj whose science fictional interventions in found paintings is a practice shared with the artist Asger Jorn²⁷⁸.

Whilst it would be folly to place emphasis on Rumney's stay at La Borde, the experimental psychoanalytic clinic where Felix Guattari practiced, the account of this is quite absent and only surfaces through the posthumous publication of Rumney's biographaphers. It would be too much to suggest a transmission or exchange of ideas between Guattari and Rumney and yet this remains at least a possibility. Rumney does not go so far as to suggest this himself, only that under the organising principles of Guattari's work at La Borde, he ran art classes at the clinic in painting and sculpture. Helle Brøn's research confirms Rumney's claim to be responsible for arranging a visit of members of the Situationist International to the Institute of Contemporary Art in 1957, following Rumney's introduction of Lawrence Alloway to Asger Jorn. Jorn was a member of both the SI and the Collège de 'Pataphysique and frequently incorporated science fictional imagery into his work, and has some bearing on the transmission of pataphysical and Situationist ideas and a science fictional exchange between the continental and British neo-avant-garde.²⁷⁹ Jorn's, critical response to the Evergreen Review issue "*What is pataphysics*" (1960), '*Pataphysics A Religion in the Making*' in *Internationale Situationiste* #6

²⁷⁷ Rumney interview by Stuart Home (1989) Cited in Hugill as Home (1996).

²⁷⁸ Jorn's *Disquieting Duck* has a pataphysical sense of scale; see also *Au bord du Lac*, Baj, Enrico, 1959.

²⁷⁹ This biographical history of Rumney, surfacing after his death in 2002, also highlights Rumney's teaching of art at La Borde after 1967. Rumney is quite syzygetical in the terms of this an intersection of Pataphysical, psychoanalytic and psychogeographic ideas in Guattari's clinical practice, although limited to my conjecture.

(August 1961), is indicative of the future occultation of the Collège de 'Pataphysique that follows between 1975-2000. "*What is pataphysics*" made more explicit relations between pataphysics and then emerging postmodernities crucial to the anglo-american exchange of the New Wave in science fiction creating a peculiarly cybernetic feedback loop of the circuits of science fiction, art, design and pataphysics.

Speaking of the influence of science fiction on the Situationists and the Independent Group, Rumney said that "... Huizinga isn't the only reference for those who at least know enough of Van Vogt (even if some are still unaware of Korzybski), Philip K. Dick. and Clifford Simak..." To which list it is sensible to add the science fictionality of William S. Burroughs, whose own time-binding of Korzybski's General Semantics is caught up in the cut-up technique, and his writing in Paris of the late 1950s is certainly a pleat in Deleuze's *Fold*. This recalls, from earlier in this thesis, the post-Independent Group futurology of John McHale in which the time-binding of the 'inventorist' (in the sense of the 'inventor' and the 'inventory') is found in McHale's *The Future of the Future* in Winetroun's (1970) review for the General Semantics Institute.

On Rumney's editorial work for his own publication *Other Voices* (1953) he suggests, in the testimony of *The Consul*, that this includes prose material from the pataphysician Stefan Themerson. Rumney holds Stefan and Franciszka Themerson responsible for bringing Pataphysics to an interdisciplinary group in London of the early 1950s. Franciszka Themerson's production of Jarry's *Ubu Roi* for a London art-science audience at the ICA is significant to British histories of interdisciplinarity as it provides a bridge between her own interdisciplinary seminars and those of the Independent Group at the ICA.²⁸⁰ Barbara Wright and Watson Taylor were associates of the Gaberbocchus Press, established by the Stefan and Franciszka

²⁸⁰ Reichardt, Jasia. "*Gaberbocchus press and the common room*", *Interdisciplinary Science Reviews*, 42:1-2, 2017:30-41.

Themerson, and responsible for the first English translation of Jarry's *Ubu Roi* (1951)²⁸¹

The press ran a 'Common Room' (1957-59) a social space for the neo-avant-garde along similarly interdisciplinary lines to the seminars organised by Independent Group members at the ICA and with whom they were near contemporaries of those participating in the Bunk presentation of Paolozzi to the Independent Group.

Already in 1952 it was all there: science fiction, sex, technology, the movies, mass advertising, comics, packaging... The ephemeral had been raised to the level of art; the underrated, undervalued and misunderstood had been proposed as the key to an understanding of contemporary culture...BUNK, Portfolio introduction. Whitford 1972.

These are parallel and complex histories which this research uncovers and synthesises only as much as it has found necessary to articulate an intersection of fiction, psychology, cybernetics and the pataphysical in Jasia Reichardt's involvement in the seminars of the common room, and to probe pataphysical influence in British cyberculture. This, and implication for speculative design research was uncovered after locating, in the frontmatter of the 1968 exhibition catalogue of Reichardt's *Cybernetic Serendipity*, a credit to *"the pataphysician Franciszka Themerson"*²⁸².

This observation is made for the syzygies the thesis has been keen to construct between cybernetics, fictional machines and pataphysics and for how these resurface (and not) in the texts on speculative design. The suggestion that there had been a pataphysical influence on British cybernetics, made as part of this preliminary research of this thesis, was

²⁸¹ illustrated by Franciszka Themerson and translated by Barbara Wright.

²⁸² for 'Exhibition Design' and for the exhibition poster.

refuted by Reichardt.²⁸³ However, this is a claim the research will come back to, presenting its possible substantiation amongst an assimilation of the objectile to the clinamen in Part Four.

Watson Taylor various acts of translation are necessary to the trans-continental mobilisation of pataphysical concepts as well as their science fictional exchange. His translations for the British Surrealist Group review 'Free Union' (Matthew (1964) included Jarry's texts and it is likely that Watson Taylor was responsible for the english translations of Jarry's texts read at the International Surrealism exhibition in London (1947). His subsequent translations are for the *Evergreen Review* issue, 'What is Pataphysics?' (1960) and again, with Roger Shattuck, 'The Selected Works of Alfred Jarry' (1965). Additional english translation for 'What is Pataphysics?'²⁸⁴ is credited to the architect Stanley Chapman and Barbara Wright. The London set of pataphysicians, which included Watson Taylor, Chapman and Wright, each feature in this issue of *Evergreen Review* within which there is a reference to a first public manifestation abroad, "presided over by the queen" and named a coronation on 2nd June 1953.²⁸⁵

Perhaps this review confuses another event: the reading, together with puppets and masks designed and made by Franciszka Themerson, of Jarry's *Ubu Roi* in February 1952 at the ICA in London.²⁸⁶ Only later is there what Jasia Reichardt suggests²⁸⁷ is the first British seminar on pataphysics, held at the Gaberbocchus Common Room on May 6th 1958. The Common Room's interdisciplinary art-science programme of talks thus puts into contiguity pataphysics, cybernetics and psychology.

²⁸³ Personal Communication 2016.

²⁸⁴ and more latterly, Alastair Brotchie and Atlas Press, who have largely been responsible for the continued translation and publication of Jarry's books and plays in Britain and America.

²⁸⁵ Shattuck et.al. *What is Pataphysics* (1965).

²⁸⁶ And which would be reviewed by Reyner Banham (1951)

²⁸⁷ personal communication (10th October 2016) and in Reichardt (2017).

3.9.0 SYZYGY #9:

BACHELOR MACHINES AFTER THE NEW WAVE AND RADICAL DESIGN

Michael Moorcock, under whose editorship the science fiction magazine *New Worlds* transitioned to the New Wave as we have already seen, confirms that he Ballard and Paolozzi were inspired by Alfred Jarry. In partial syzygy with this Colin Greenland (1983) notes the influence on Ballard and Moorcock of the exhibition *This is Tomorrow* by members of the Independent Group. In further syzygy, Baudrillard's 1991 *'Two Essays'* establishes for *Science Fiction Studies* relations between Ballard's *Crash* and Jarry's *Supermale*, and it is Watson Taylor and Shattuck's translation of Jarry's collected works in 1965 that inspires Ballard's New Wave reconstructive archaeology of Jarry's *The Passion Considered As An Uphill Bicycle Race (1903)*.

Ballard's reconstruction of Jarry's blasphemous text *The Assassination of John Fitzgerald Kennedy as a Downhill Motor Race* is first published in Autumn 1966 in *Ambit* #29. Ballard's pataphysically reconstructive short story is also included as a part of the collection edited by Judith Merril *England Swings SF* (1968). Influential to the anglo-american exchange of science fictional ideas of the New Wave, Merril also includes Simon Watson Taylor's translation of Jarry's *Two Telepathic Letters to Lord Kelvin* in her editorship of the *11th Annual Edition: The Year's Best S-F* (1966:234).²⁸⁸

In partial syzygy with Reichardt's *Cybernetic Serendipity*, is the exhibition *Science Fiction*, curated by Harald Szeemann, Paris of 1968.²⁸⁹ It is an exhibition of consequence to the pataphysical milieu this thesis charts. Influential, is Szeemann's membership of the Collège de 'Pataphysique

²⁸⁸The point to underscore is that Jarry is given billing on the cover of this issue collecting speculative- not science- fiction alongside Ballard, Borges, Lieber and others.

²⁸⁹ Szeemann's exhibition *Science Fiction* is first at the Kunsthalle in Bern in 1967

throughout his involvement as director at Kunstahalle Bern. Of note is his inclusion of reference to Jarry in the introduction²⁹⁰ to the joint exhibition catalogue for *Light & Movement: Kinetic Art and New Tendencies in Architecture*, July 3- September 5, 1965. This refers Jarry's *le Temps dans l'Art* (1901) and is notable for its consideration of art as atemporal. The archive of science fiction held by the Pierre Versins Foundation were kind enough to provide access to the archival records of the collection forming part of Szeemann's *Science Fiction* for review in this thesis. The science fiction collection of Versins is considerable. Versins's interest in the histories of utopias, and for Harald Szeemann's *Science Fiction* Versins donated over 2000 books, comics and magazines.²⁹¹ Amongst those books included by Szeemann, the archival record records of the Versins Foundation record the inclusion of a first edition of Jarry's *Faustroll* from 1911.

²⁹⁰ the introduction is unsigned, but it is assumed that Szeemann director of the Kunsthalle at the time is its author.

²⁹¹ I am grateful to the Versins Museum for providing this archival list.

- Moon Explorer, Appareil de la Nasa avec fusée en plastique pour le commander.
Ramo "Vol à fusées vers la Lune", jeu de société, décor Terre, Espace, Lune.
 REBIERE (Martin). Les jouets futuristes déroutent les parents. "Midi-Libre", 1er décembre 1965 (coupure)
Robot "Attacking Martian" avec sa boîte.
 Robot de la "Robot Series" No 1, modèle plastique à construire.
 Robot de la "Robot Series" No 1, modèle plastique construit.
Rocket Pistol sur panoplie à décor spatial.
 Solitaire à 2 billes, décor astronautique.
Space Patrol Car, dans sa boîte.
Space Ship DB-3, soucoupe volante.
Space Station, NASA.
Space Super Jet Gun, avec sa boîte.
Space Water Gun, avec carton illustré (combat interplanétaire)
Space Water Reneger, avec carton illustré (cosmonaute)
Sputnik, jeu de société. Décor du carton: interplanétaire.
 60. LANGUES ARTIFICIELLES (3 documents)
 BURROUGHS (Edgar Rice). Principe de Marco. - Heronsgate, The Esperanto Publ. Co, 1938.
 GODE-VON-AESCH (Alexandre). Dece contos. - New York, Storm Publishers, 1958 (Interlingua)
 Linguo Internaciona Ido. Texte en 4 langues: Esperanto, Ido, français, Néerlandais.
 61. LETTRES (113 documents)
 2 classeurs de lettres contenant 56 et 56 lettres ou documents autographes divers (dont 1 aquarelle originale d'Albert ROBIDA).
 "Varioso" No 16, juillet 1958. Couverture avec signatures d'Auteurs SF.
 62. LITTÉRATURE ET SCIENCE FICTION (14 documents)
 BECKETT (Samuel). Fin de partie... - Paris, Ed. de Minuit, 1957.
 BORGES (Jorge Luis). Fictions. - Paris, Gallimard, 1951.
 BURROUGHS (William). Le festin nu. - Paris, Gallimard, 1964.
 BURROUGHS (William). Nova Express. - New York, Grove Press, 1964.
 CALVINO (Italo). Le cosmocomiche. - Torino, Einaudi, 1965.
 CENDRARS (Blaise). L'Eubage, aux antipodes de l'unité. - Paris, Au Sans Pareil, 1926.
 DAUMAL (René). Le Mont Analogue. - Paris, Gallimard, 1952.
 DOBZYNSKI (Charles). L'Opéra de l'Espace, poème. - Paris, Gallimard, 1963.
 JARRY (Alfred). Gestes et opinions du docteur Faustroll, pataphysicien... - Paris, Charpentier, 1911.
 LANDOLFI (Tommaso). Cancroregina. - Firenze, Vallecchi, 1950.
 LEWIS (Wyndham). The Human Age, book One: Childermass. - London, Methuen, 1956.
 MICHAUX (Henri). Voyage en Grande Garabagne. - Paris, Gallimard, 1936.
 POWYS (John Cowper). Up and out. - London, Macdonald, 1957.
 VIAN (Boris). L'herbe rouge. - Paris, Toutain, 1950.
 63. MANUSCRITS (2 documents)
 SAINT-OGAN (Alain). Mitou et Toti à travers les âges, chap. 25 (accompagné d'une Lettre a.s. = 3 et 1 pp.)
 SAINT-OGAN (Alain). Le sauvage de l'Océan, 1940 (1ère version du Voyage immobile). 18 pp.
 64. MAROC (5 documents)
 "7 jours à Casablanca" No 1, octobre 1963. Couverture.
 "7 jours à Casablanca" No 9, décembre 1963, ouvert pp. 32-33. DELTHEIL (Michel), Le visage de la justice.
 "7 jours à Casablanca" No 11, décembre 1963, ouvert p. 32. DELTHEIL (Michel). Petites annonces.
 "7 jours à Casablanca" No 20, février 1964, ouvert p. 34. DELTHEIL (Michel). Impossible n'est pas français.
 "7 jours à Casablanca" No 25, mars-avril 1964, ouvert p. 18. MICHEL (Gilbert). Ils arrivent (photo-montage).

Figure 32. Versins archive note, loan of materials Faustroll (Jarry,1911) in Science Fiction (Szeemann) 1967.

There are those within science fiction sociology and SF historians who place all science fiction as being in a sense pataphysical.²⁹² This is not the claim of this thesis, neither was it Szeemann's, although pataphysics was a considerable influence on Szeemann methodologically and conceptually.²⁹³ This influence is most evident in the curation of his 1975 exhibition *Bachelor Machines*, drawing upon Carrouges's *Les Machines Célibataires* (1954) and

²⁹² see the reference to Sternberg in Fitting (1974).

²⁹³ Szeemann was a member of the Collège de 'Pataphysique. Papers of Harald Szeemann are held at the Getty Research Institute, Los Angeles. see Phillips et.al. 2016.

for the science fictionality of content and methodology in his curatorial productions for Documenta; even more so in his exhibition dedicated to *Alfred Jarry*. In *'Bachelor Machines'*, though, there are reconstructions of certain of the pataphysical machines described in Michel Carrougues' essay (1954) which were influential to, and embedded within, Deleuze and Guattari's *Anti-Oedipus*.²⁹⁴ This implication of pataphysics within Szeemann's artistic production practice is significant to the research of this thesis for its part in the construction of a science fiction milieu informing his own ontographic method, at the time Deleuze's *Difference and Repetition* and Baudrillard's *System of Objects* were published. It is indicative of a science fictional milieu within which these works were written and received (1968) and of science fiction and philosophy in wider cultures. There are parallels, this thesis suggests, with the reception of works by Deleuze, Deleuze and Guattari, Baudrillard, and other continental philosophers in translation in Anglophone contexts and the then contemporary science fictional milieu in Anglo-American²⁹⁵ contexts (1977-199x).

Noted in the previous *Syzygy*, there is a credit given to Franziska Themerson in the exhibition catalogue of *Cybernetic Serendipity*. This recognises her as an 'exhibition designer, illustrator and "member of the Collège de Pataphysique"'. This might be serendipitous, and cybernetic or not, but for the masks and puppets designed by Reichardt aunt Franscizka Themerson, and for the performance of *Ubu Roi* at the ICA (1951), Themerson was awarded the title of pataphysician. We can therefore suggest another thickening in our nomadic field of distribution for the clinamen and objectile of a mobility of concepts between pataphysical and cybernetic cultures. Indeed, between the interdisciplinary exchanges of the Gaberbocchus Press and its Common Room, and the Independent Group at the ICA in London of the 1950s, it is possible to trace this pataphysical influence feeding-forward into the circuits of

²⁹⁴ In *Anti-Oedipus*'s citation of Carrougues text, missing from its selective inclusion of literary machines are those of Verne, Lautréamont's.

²⁹⁵ see for example in the American context Lotringer, Sylvère and Sande Cohen. *French Theory in America*. Routledge, 2013; and see the collected texts of the CCRU (2017).

an interdisciplinarity in which visionary design collides with Carrouges list of pataphysical machines. The evidential traces of the clinamen are fleeting yet remarkable: take for example the pataphysical influences of Reyner Banham's review²⁹⁶ of Themerson's staging of *Ubu Roi* at the ICA. This suggests a milieu in which pataphysical ideas about Clinamen at the Gaberbocchus Press and ideas about error and noise in communication theory within the Independent Group were in cultural collision, as a clinamen flickers between pataphysics and cybernetics in science fiction, radical design and architecture fiction. When questioned however, Jasia Reichardt claimed there to be no significance of the pataphysical to cybernetics nor of her curatorship of the ICA exhibition *Cybernetic Serendipity*.

Watson Taylor's talk at the Gaberbocchus Common Room was part of his preparatory material for subsequent publication with Shattuck (1960). Of more interest to the research of this thesis though is the proximity of Watson Taylor's introduction in 1958 to discussions on cybernetic ideas and the talks in other seminars at the Common Room noted in the schedule of talks by Z.M.T Tarkowski, a consultant psychologist recorded in the Gaberbocchus press archive: '*Cybernetics and Psychology*' (19th September 1957) and on '*Lie detectors and Psychological Devices*' (17th October 1957).²⁹⁷

²⁹⁶ Banham, Reyner (1951). Review of *Ubu Roi*, by Alfred Jarry. *Art News and Review*, 11th August 1951, Vol. 3, no. 14:7.

²⁹⁷ With thanks to the Gabebocchus Common Room Archive. Polona.

Gaberbochus Thursdays past and forthcoming:		
1st Thursday:	films: High Speed Film of Drop Formation Photo-Elastic Stress Analysis Una Lezione di Geometria Colour Box /Len Lye/	1 AUGUST 1967
2nd Thursday:	Nico Toccanti - Clavichord : J.S.Bach	8 AUGUST 1967
3rd Thursday:	Mr.R.F.J.Withers: on Science & Art discussion Exhibition of pictures	15 AUGUST 1967
4th Thursday:	films: Crystal Growth Lagato Equation: $x + x = 0$	22 AUGUST 1967
5th Thursday:	Mrs.Curney Campbell and Miss Daphne Athas: on Feedback in Theatre	29 AUGUST 1967
6th Thursday:	Hugo Manning: Four Poems discussion	5 SEPTEMBER 1967
7th Thursday:	Paul Harris: on Art & Science	12 SEPTEMBER 1967
8th Thursday:	Z.Tarkowski: Cybernetics & Psychology /1/	19 SEPTEMBER 1967
9th Thursday:	S.Themerson: Reflections on the Second Conference of the Philosophy of Science Group, Nottingham, 1967.	26 SEPTEMBER 1967
10th Thursday:	Dr.H.R.Calvert: Harvey's Mathematical Models talk and demonstration	3 OCTOBER 1967
11th Thursday:	M.Graubart: Music - Electronic & Concrete talk and demonstration	10 OCTOBER 1967
12th Thursday:	Z.Tarkowski: Cybernetics & Psychology /2/	17 OCTOBER 1967

Figure 33. Cybernetics and Psychology
at the Gaberbochus Common Room (1967). Polona archive.

This seems to me to be a critical omission from the otherwise significant and most complete account of the eccentricity of British Cybernetics, Andrew Pickering's *The Cybernetic Brain: sketches from another future* which has no mention of the Common Room events. The cybernetic, psychological and pataphysical aspect of these seminars at the Common Room and Pickering's recounting psychiatric implications of cybernetic research, again calls to mind reference to the influencing machines of Robert Gie whom Deleuze and Guattari find to be the 'very talented designer' of paranoid electrical devices in the same passage in which they refer to the pataphysical machines of Michel Carrouges. It is precisely this cold war combination of design, the paranoid and the pataphysical that provides the science fictional context for the gadgets of AE van Vogt, Ray Bradbury, WS Burroughs and PK Dick; and their bearing on the Situationist science fiction urbanism and the pop SF of the Independent Group; on the British New Wave; and on Deleuze and

Baudrillard, have pataphysical consequences for speculative culture and speculative design.

As we will examine in Part Four *Objectile & Clinamen*, the concluding section of this thesis, in *Clinamen Redux* Warren Motte suggests that it is via Jarry's literary output that the clinamen enters, or one might better say that it *veers* into, contemporary continental thought (1986: 263–81). Of particular interest for the remainder of this *Syzygy* will be the ways in which the careening movements of the clinamen intersect the designed artefact after the pataphysical machines invented by Jarry's fictional character Ubu. We have already had cause to refer to these machines in the preceding *Syzygies* and we shall return to two of these machines, *Clinamen*, the painting machine (Jarry 1996: 88), and that described in Jarry's 'manual' *How to Construct a Time Machine* in Part Four, discussing these in relation to the implications of their presence in the books of Deleuze & Guattari.

3.9.1 The Pataphysical Machines of Michel Carrouges

We have discussed Carrouges pataphysical machines of the beyond and have touched upon his essay *Bachelor Machines* without so far providing a fuller account in a discussion of their presence in Deleuze & Guattari's *Anti-Oedipus*. Across his philosophy Deleuze had recourse to pataphysical contrivances and contraptions including, with Guattari, the notable example of paranoiac electrical machines designed by the 'talented' Robert Gie. The inclusion of these devices in *Anti-Oedipus* is most pertinent in which Deleuze-Guattari cite the survey of fantastic machines conducted by the Carrouges:

*Michel Carrouges has identified a certain number of fantastic machines – 'celibate machines' – that he has discovered in works of literature. The examples he points to are of many very different sorts, and at first glance do not seem to belong to a single category: Marcel Duchamp's painting *La mariée mise à nu par ses célibataires, même* ('The Bride*

Stripped Bare by Her Bachelors, Even'), the machine in Kafka's In the Penal Colony, Raymond Roussel's machines, those of Jarry's Surmale (Supermale), certain of Edgar Allan Poe's machines, Villiers's Eve future (The Future Eve), etc. (Deleuze and Guattari 2000: 18).

Whilst these might be better known in a Duchampian register as 'bachelor machines', what Deleuze and Guattari do not make explicit is that these machines – together it might be supposed with all Deleuze's (and Deleuze and Guattari's) machines, indeed 'all machines' as Carrouges would have it are first pataphysical (Carrouges 1975:44). Furthermore, the pataphysician Jacques Carelman whose creations feature in the *exegesis* is the reverse archaeologist of the machines of Jarry, Roussel and Poe in Szeemann's exhibition.²⁹⁸ The exhibition catalogue was also illustrated with drawings of Locus Solus by the pataphysician Jean Ferry²⁹⁹ and it was also illustrated with a series of drawings of painting machines, including Faustroll's *Clinamen*.³⁰⁰ These bachelor machines form alliances with other machines of desiring-production and the field of productivity. Similarly, the pataphysical machines of speculative designers, and those that modulate the designed artefacts of abstract culture, make fresh alliances between bachelor machines and what Deleuze & Guattari term the machinic phylum or rather, the probing of its space of possibilities: the *machinic* as the synthesising of heterogeneities, and the *phylum* of self-organising and combinatorial human and nonhuman potentialities.

²⁹⁸ Carelman, reverse archaeologies as the installations, illustrated in the exhibition catalogue of The Wind Clock inspired by Cyrano de Bergerac; The Diamond from Locus Solus; The Pavior's Beetle from Locus Solus; Jarry's Supermale; Poe's, Machine from The Penal Colony. at Szeemann's Bachelor Machines, Carelman 1975.

²⁹⁹ Ferry, Roussel Drawings and Fassio's design for a pataphysical device for reading Roussel's texts. Szeemann, The Bachelor Machines (1975).

³⁰⁰ Clinamen drawings, The Bachelor Machines (1975).

As noted previously, initial research of the exhibition *Science Fiction* (1968), in the Szeemann archive, with assistance from the archives of Pierre Versin's science fiction collection, identified inclusion of a first edition of Jarry's *Faustroll* in Szeemann's exhibition *Science Fiction* (1968). Szeemann's more explicitly pataphysical *Bachelor Machines* (1975) is so named after Michel Carrouges's essay and specifically analysis of the *Large Glass* and *Green Box*. In its pataphysical dimensions, this provides a significant imaginary for speculative design curiously missing from the subsequent exegesis. Whilst Duchamp's *Large Glass* is a visual and conceptual source of Hertzian Tales in respect of its 'pataphysical realm', the provenance of this association and its implication for speculative design have wider impact than its passing reference in *Exegesis* suggests.³⁰¹ and in Rodney Graham's (1989) *The System of Landor's Cottage*.³⁰² Where Carrouges was concerned with Poe's machinery, Graham's *System* architecturally extends Poe's literary landscape by inserting an 'annexe' into *Landor's Cottage*, a short story which itself had already extended the spatiality, an optical fiction of a landscape fantastique, of Poe's *The Domain of Arnheim*. The annexe Graham inserts into the *Domain of Arnheim*, *Landor's Cottage*, is an architecture fiction, as an extension, it in turn houses what can only be described as a pataphysical machine:

[The Annexe is] a small room which houses a machine ... highly complex and of no apparent rational function, a machine which seems 'out of place' and which calls for an explanation. The explanation is subsequently provided by Mr Landor himself, the owner of the house and the narrator's host who undertakes to describe the origin and history of the annex. The main body of my novel is taken up with Mr

³⁰¹ This is evident, for example, in Richard Hamilton's graphical reconstructive design of *Large Glass* and the *Green Box*

³⁰² In "A Pataphysical Graham": A consideration of the Pataphysical Dimension of the Artistic Practice of Rodney Graham' Tate Papers No. 6., Steven Harris notes (para. 20.) the architectural implications of the system. Available online <https://www.tate.org.uk/research/publications/tate-papers/06/pataphysical-graham-consideration-of-pataphysical-dimension-of-artistic-practice-of-rodney-graham> accessed August 2018. The architectural dimension of this pataphysical machine has resonance with similarly infernal devices of New Weird writers Thomas Ligotti and Jeff Vandermeer, which this thesis leaves for future research.

Landor's account of the components of the annex-machine, and the relation of the apparatus to the cottage as a whole. (Harris 2006).

The architectural influence of Duchamp's *Large Glass* was first mobilized for design in Frederick Kiesler's essay for *Architectural Record*, *Design Correlation*, 1937 but also pertinent are his *Vision Machines*.³⁰³

Kiesler's analysis of *Large Glass* established a visual and diagrammatic precedent in its extensive use of photomontage and on a free association of image, object and diagram that continues to resonate with producers of architecture fiction, for example in the drawings of visionary architect Perry Kulper in which the naming of parts, objects and places takes on a science fictional and occasionally neologistic character.

In the writing of Alberto Perez Gomes and Louise Pelletier, both in references from *Architecture & the Perspective Hinge*, in which there is allusion and reference to an underlying pataphysics to the discussion of Le Corbusier under the influence of Jarry, and in Perez Gomez's architecture fiction, *Polyphilo or The Dark Forest Revisited (1994)*, a rewriting of the *Hypnerotomachia Poliphili*, in which Duchamp is also influential. Perez Gomez says of this architecture fiction that it follows the '*horizon in a technological artefact*':

[...the nomadic condition of modern technological man...] passes through Romanticism and surrealism, gathering artefacts at all scales and in various media that are normally not included in typologies of architecture. Since the eighteenth century the traditional divisions among the fine arts have been subverted, with the result that many poetic works that are significant for architecture are not full-scale

³⁰³ pages from Frederick J. Kiesler [Author, Designer], Berenice Abbott [Photographer]: *DESIGN—CORRELATION*. New York: F. W. Dodge Corporation, 1937. "*Duchamp's Glass is the first x-ray painting of space.*" — Frederick Kiesler. In which a concern shared with Duchamp in perception and the optical mechanism also informs visionary architectural investigation including that of Michael Webb's Temple Island Cones of Vision

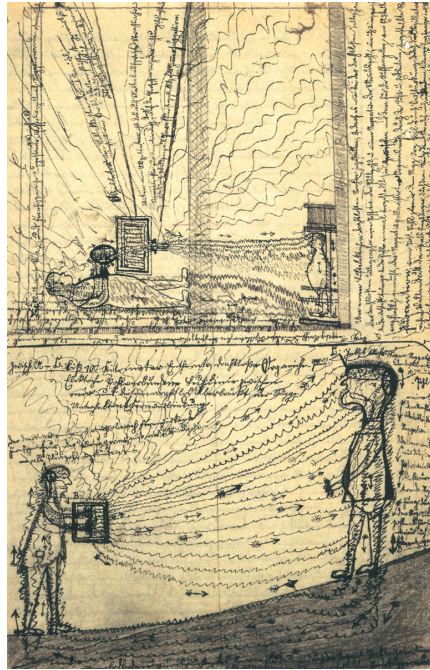
buildings. Polyphilo visits some of these works and evokes their ephemeral truths to the man in transit. The works of Jean Jacques Lequeur and Marcel Duchamp are prominent among them. (Perez-Gomez 2008:102)

The strategy of 'naming of parts' evident in Duchamp's *Large Glass* – the *ocular witness, sieves, juggler of gravity, chocolate grinder, glider, capillary tubes, malic mould*, is also evident in Perry Kulper's architecture fiction's which he describes as "moving between ideas and design speculations" and that his drawings "build relations to some of the key questions posed 'through' Duchamp and the 'un-making' of traditional artistic labor towards identifying the scope of architecture" (Kulper 2014). Kulper's naming of parts work as SF neologisms in terms of the possibility of invention, the imagined and nullpointing referent.³⁰⁴

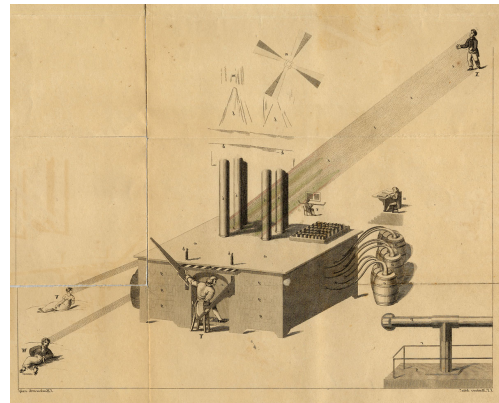
The reconstruction of archaeologies of pataphysical machines from the domain of literature and the possible worlds of art, that of Szeemann's *Bachelor Machines*, for example in Kafka's writing machine 'reconstructed' from *The Penal Colony*, also extends to the diagrammatic prototyping of 'influencing machines'. Prototyping of this nature is performed by Deleuze's 'talented designers', like Robert Gie whose drawings can be found in the collection of outsider art of the pataphysician Jean Dubuffet's *Collection de L'Art Brut*, in Lausanne. A pataphysical reconstructive practice is also evident in a version of Tausk's influencing machine made by the artist Rod Dickinson,³⁰⁵ again in an ekphrastic mode of reconstructive archaeology.

³⁰⁴ In computer programming A null pointer is known not to point to any object or function.

³⁰⁵ Dickinson's reconstructive collaboration with author Tom McCarthy on the Greenwich Degree Zero (2006), and the Milgram Re-enactment (2002) are also pertinent here.



Jakob Muir, 1810.



James Tilly Matthews, 1810.

Figure 45 Jakob Muir and James Tilly Matthews as talented Designers of electrical Devices.

Even closer to the science fictional influence of the *Exegesis* of speculative design is a relation between these practices and those of J.G. Ballard, particularly his collage *Mr. F is Mr. F* and what has been termed the 'prototyping' of *Crash!*³⁰⁶ in various forms of preparation for its incarnation as Ballard's 1970 exhibition of *Crashed Cars*.

The direct and indirect pataphysical reference of Szeemann's exhibition *Science Fiction* characterises a milieu against which both Baudrillard's *System of Objects*, with its expressly pataphysical interest in an imaginary science of technical objects, and Deleuze's *Difference & Repetition*, where he first articulates the science fictionality of a book of philosophy, are each written, published and received. Furthermore, there is a near coincidence of the writing and reception of *Anti-Oedipus* and Szeemann's *Bachelor Machines*

³⁰⁶ The chronology of these 'prototypes' is Ballard, J.G. (1969) *Crash!* in *Eventsheet*, Feb., 1969, Institute of Contemporary Art, London; Ballard, J.G. (1970) *Atrocity Exhibition*, Cape; Ballard, J.G. (1970) *Crashed Cars* exhib; Ballard, J.G. Harley Cokeliss, dir. (1971) *Crash!* (Short Film); Ballard, J.G. (1973) *Crash*; Cronenberg, D (1996) *Crash*. (Film). see Matek (2017).

although Szeemann underplays the influence of Deleuze & Guattari,³⁰⁷ each depend on Carrouges's observations on pataphysical machines. These parallel, but are not straightforwardly congruent to histories of architectural fictions.³⁰⁸ This to say, the reception of the English translation of *Anti-Oedipus*³⁰⁹ might also be coincident, but in discordant ways, with the publication of Robert Harbison's 1977 *Eccentric Spaces*.

Where *Anti-Oedipus*'s inclusion of bachelor machines is expressly evident, a suggestion of the inclusion of machines in *Eccentric Spaces* may appear opaque or oblique. And yet the architecture fiction *Hypnerotomachia Poliphili*, central to the topological fiction of Harbison's *Eccentric Spaces*, contains sufficient reference to renaissance machinery for the 20th century architectural imaginary and reference which would also be quite familiar to Jarry through his own his pairing of Faustroll with Rabelais.³¹⁰

3.9.2 Further pataphysical machines of Michel Carrouges

To this vector of interest the thesis has introduced two critically overlooked essays by Michel Carrouges. In each of these Carrouges furthers his research on *Bachelor Machines* as being 'first pataphysical'. The first of these essays has already been referred by the present thesis in relation to the pataphysical sense of machines facilitating access to *'the beyond'*. Such machines, as was noted, will already be familiar to readers of Lovecraft's *From Beyond (1934)*. The *Tillinghast Resonator* for example is a speculative hardware operating in the sense we wish to establish for speculative design as reconstructed from

³⁰⁷ HUU: What about Deleuze and Guattari's *Anti-Oedipe (Anti-Oedipus)*? Did it influence your way of conceiving *Documenta V*? HS: I only read Deleuze for "Bachelor Machines," not before. *Artforum International*. Obrist (1996).

³⁰⁸ On engines of the imagination, See Wolfe (2006).

³⁰⁹ It would not be until the 1990s that a *System of Objects and Difference & Repetition* would be available in English translation and hence converge with anglophone cyberculture.

³¹⁰ it is considerably beyond the scope of this thesis to pursue the borrowings of Rabelais from Colonna and the following can suffice to provide further reference Kenny, 2011:71: n.19 which discusses Rabelais's rewriting of elements of Colonna's *Hypnerotomachia Poliphili* in his description of the Abbey of Thélème. For a wide reading of Rabelais and Jarry see Murphy, 1977, pp. 29–36.

speculative fiction in relation to the weird; as is the 'shining trapezium' from *Dreams in the Witch House* (1933) and the alien aesthetics of 'colour' itself, from the *Color out of Space* (1927). In the second of Carrouges articles on pataphysical machines, *Les Machines Pataphysiques De Maldoror Et Leurs Groupes De Transformation*, he follows-up on his comments in *Bachelor Machines*, that Lautréamont's *Maldoror* contains pataphysical 'transformation' machines. Notable here is that *Maldoror* informs the surrealist doctrine of objective chance attributable to Andre Breton. An ethnographic surrealism inheres in the cultural probes of ethnographically motivated surrealist design fiction: "*as beautiful as a chance meeting of a sewing machine and an umbrella on an operating table*" as well as in the objects of pataphysician Max Ernst, in referring to this beautiful meeting of machines in *Maldoror* as "*a coupling of two realities irreconcilable in appearance, upon a plane which apparently does not suit them.*" (Transl. Clifford 1992).

Jarry's foliated spaces, and Maldoror's superimpositional coupling of realities, in schizoanalytic terms replaces a perception of pataphysical science fiction 'as-if' as an allagmatic spatial surface in which 'both', 'as', 'and', 'if' are perceived at the same time. To repeat our earlier observation here, Deleuze's methodological construction involves the superimposition of layers of thought "*in other words, the active synthesis of memory and understanding are superimposed upon and supported by the passive syntheses of imagination.*" (2004:71).

3.10.0 SYZYGY #10:

ON TIME MACHINES, DELEUZE & THE PATAPHYSICAL FILM.

In *Cinema 1* (1986) and *Cinema 2* (1989) Deleuze makes occasional reference to issues of technical design, referencing both descriptions of the apparatus and informational concepts of devices instruments and systems of design necessary to film production, as well as occasionally employing technical terms from scenographic design. For example, take the precision in Deleuze's thought in his choice of the term 'signaletic'³¹¹ (1989: 33) the precise effects of which 'remain to be determined' (1989: 265). This is an enigmatic, one might even say prophetic observation on the becoming of signaletic protocols of control, not to mention the modes of existence of technical objects and the cinematic science fictional production of subjectivities. The term signaletic suggests a familiarity on Deleuze's part with the cybernetic systems design term *signal*, which, along with his own trans-semiotics of the Cinema books, provides a proximity to the analytical and theoretical category of the technical media. The design of hardware for D&R, in many of the projects illustrating Design Noir and Hertzian Tales, entails an object's continuity with a physical world and it seems appropriate to apply Gilles Deleuze's concept of the world as processes of becoming, to discuss the film-making of speculative designers alongside some of the science fiction cinema Deleuze discusses in Cinema 2. The films of speculative design construct (fictional) worlds containing paranoiac-systems in complex and heterogeneous relation of fields of energies and bodies. The science fiction films Deleuze notes - certain films of Tarkovsky, Godard, Marker and Resnais, like design fiction are concerned with processes of change - the processes of becoming that are not contingent upon the consequences of individuals but on the vicissitudes of uncertainties.

³¹¹ see also Bodil 2012.

3.10.1 The Pataphysical Film

What this thesis terms *pataphysical fictions* have largely been illustrated by the present thesis in a literary mode of SF and architectural fiction. However, Speculative Design is inseparable from its mannerist photographic and cinematographic mediation. Alice McMahan has termed pataphysical certain films expressing in their special effects inherently pataphysical objects. The cinema in which McMahan's interest is gathered though, that of Tim Burton, does not square well with the essay films of speculative design. McMahan's interest is the films of Tim Burton. Burton's *Edward Scissorhands* as has been noted but without confirmation by Burton, does share some of the characteristics of D&R's sphere of source reference, if the fantastic of Rebecca Horn's *Finger Gloves* can be admitted. It is to be noted that Rebecca Horn is included in the artist influences of the exegesis and that Horn, in turn, is influenced by Jarry's painting machine *Clinamen*.³¹²

However, what this thesis can share with McMahan is her observation of the emphasis on advanced cinematographic special effects as inherently pataphysical when the prop is possessed by its special effects. Also noteworthy is Burton's own acknowledgement of the influence of Tex Avery³¹³ and Looney Tunes cartoons, as these also hold the potentialities of a pataphysical supplementary universe.³¹⁴ *Hammer space*, the pocket universe

³¹² See *Painting Machine*. Horn, Rebecca (1988). Burton's interest in Cronenberg might suggest a closer relevance, one concerned with the grotesque and the uncanny, than credited by this thesis.

³¹³ Tim Burton, MOMA (2009) exhibition catalogue lists the cartoons under its film screening programme contextualising the retrospective on Burton.

³¹⁴ Gayot, P. *Quelques échappées sur les univers supplémentaires de Tex Avery* in *Le Correspondancier du Collège de 'Pataphysique* No 4, 1er Gidouille 135. Of related interest is Jerome McGann founder of the Laboratory of Applied Research in Patacriticism who notes (in McGann 2007) a lexical relation of a nano-order of imaginary and infinite words between Faustroll's companion Bosse de Nage's *Ha-Ha* and Wile E Coyote's *Beep-Beep*.

from which cartoon characters draw various tools, and the darkly comic inventions of the *ACME corporation*, from which catalogue, an exemplar par excellence is the transversal potential of the *portable hole*. Catalogues of design fiction include that of the Near Future Lab, but the catalogue as a trope of imaginary devices extends to the pataphysician (1980) Jacques Carelman's *Catalogue of Unfindable Objects* (1984); the ACME catalogue as edited by Charles Carney (2006); and the catalogue of imagined fictional technologies of Eduardo Berti (2017). Furthermore, Burton's evident interest in the body fantastic and the thanatocratic as well as the speculative fantastic and, specifically, of "*horror's infusion of all popular arts*" (Bradley 1995:23) is something Burton appears to share with David Cronenberg, and with the speculative designer Noam Toran.

Toran works within the collapsed thickness of categories between Design and Art and, significantly, it is not only objects but their relations that are of interest to Toran's practice. His interest is in the potentiality of fictional objects within the spaces of cinema and for the ways that objects leak out of the fictional into the world³¹⁵ and is reminiscent of the ways in which theory-objects work in hyperstition. Before coming to discuss Toran's idea of the object as protagonist, exemplified in his interest in the hypertechnological objects of the film franchise *Phantasm* and the hybrid materialities of Cronenberg's props as protagonists, as pataphysical, another, one older than McMahan's association of pataphysics and film, is the observation on science fiction film of James Dator, one of futurology's pioneering figures (Bell:2003). Dator splits his observation in binary terms, comparing object-relations in Kubrick's *2001(1968)* and Vadim's *Barbarella* (1968).

The latter, for Dator (2010), is pataphysical for its inclusion of what must be described after Michel Carrouges definition of the Bachelor Machine, as a 'bachelorette' machine, one contemporary with the *Falling in Love Machine* (1968) of Superstudio. The machines seem to also be of a kind with the

³¹⁵ Personal Communication (22.01.2015).

'becoming molecular' and machinic rethinking of the cinematic apparatus itself of Felix Guattari's *l'Univers Infra-quark* (UIQ).

Thomson and Maglioni's 'unmaking' of UIQ (2012-2015), as well as the essay films and docufictions of the Otolith group, share certain traits and characteristics with the photographic and cinematic representations of interest to *exegetical* speculative designers. As with Toran, the Otolith Group's docufictions explore the remainder of science fictional objects in 'the ruins of cinema'. Neither of these science fictions form part of Dunne's *exegesis* of Speculative Design, nor do they feature in Toran's list of recommended films in his talks on *Complicated Objects* (2011) or the *Mind Control* lectures at the RCA (2008).³¹⁶ However, the unmaking of UiQ is relevant to the discussion and its screenings and events are therefore exemplars of speculative culture; if not of critical design works, then as speculative for their combining of methodology, science fiction and molecular theories. These have significance to the pataphysical theme of the thesis, as well as to the broader context of a relation of relations, a syzygy between architectures of objects and their science fictional and cinematic mediation.

The term 'tube-tract' developed by the artists Graeme Thomson and Silvia Maglioni, is an appropriate technical term to describe the essay films of speculative design. Relating to the essay film, the *tube-tract* is itself a reference to the *cinetracts* of Godard, Marker and Resnais. Tube-tracts are what Sterling would refer as 'internet theory-objects' and put design fictions into circulation through platforms such as youtube and vimeo. Certain of the films of Godard, Marker and Resnais are central to the science fictional aesthetic of critical design, and to what Thomson and Maglioni term, in relation to their own practice, as the 'ruins of cinema'.

³¹⁶ There are certain comparisons which can be made between Toran's visual references and the essay by Tesson, "The mutant body of architecture", in *Architectural Probes: Flesh* Diller & Scofidio (1994), and this, indeed, is also to be read as a redux of Szeemann's Bachelor Machines catalogue.

An expanded sense of the *tube-tract*, involves a pataphysical methodology of reverse archaeology. The term reverse archaeology is not to be treated as equivalent to the similarly named speculative design practice developed by Stuart Candy (as an artefact from the future) but one suggested from the methodological definition of the London Institute of Pataphysics Department of Patentry and considered as combining something like a sculptural approximation of literary ekphrasis and a reverse engineering of fictional technical objects. Indeed, the literary interest of the *exegesis* in Nicholas Baker's *Mezzanine*, for its descriptive content of everyday objectile encounters, suggests this ekphrastic mode of enquiry. The artist and writer Tom McCarthy's novels are noteworthy in this respect for foregrounding a methodological ekphrasis (Hetman 2015) which closes a loop between the literary and cinematic. For example, in *Satin Island*, a central character, U, an anthropologist or ethnographer working in corporate design, is preoccupied by dreams, visions and hallucination. A reversal of a model of ekphrasis is central to another of McCarthy's novels, *Remainder*, taking the form of a reconstructive archaeology in which the central protagonist employs the apparatus of film and television to recreate an intangible and lost memory. *Remainder's* isolation and industrialisation of the problems of pre-production as the means of mnemonic world-building of its protagonist, parallels the reversals and de-politicisation of concept art, world-building and games pre-production necessary to design fiction. This thesis suggests the ekphrastic extraction or evertion³¹⁷ of plots, props, and scenographies from lost- and imaginary films, is a pertinent critical model with to offer interrogation of the preferred media platform – the tube-tracts of short internet-distributed films of the RCAs taught and research programmes in critical design and the design fictions of its alumni who make up much of the field of contemporary practice in speculative design.

³¹⁷ Eversion is introduced to post-cyberpunk SF by William Gibson as the opposite of immersion in a virtual reality. "*Cyberspace, not so long ago, was a specific elsewhere, one we visited periodically, peering into it from the familiar physical world. Now cyberspace has everted. Turned inside out. Colonised the physical.*" (Gibson 2010) Gibson, William, "Google's Earth," New York Times, August 31, 2010.

3.10.2 Signaletic Hardware, Diegesis and the Philosophical Object as Protagonist.

The canonical critical design 'shorts' are generally taken to comprise D&R's All the Robots, part of their 'now classic' project *Technological Dream Series: No 1, Robots* (2007); Noam Toran's *Desire Management* (2005) and *Object for Lonely Men* (2001); Toran and Onkar Kular's *Postponing the Inevitable* (2007) their three-screen, 'supercut opus', *Proposal for an Impossible Library* (2007); and Ilona Gaynor's *Everything Ends in Chaos* (2011). Of the Critical Design docu-fictions fully engaged in prop-making, Noam Toran's *objects as protagonists* are of great interest to its genealogy in pataphysical and bachelor machines. An examination of these reveals a transmedia theoretical aspect of Critical Design in forms of the reverse archaeology of the material culture of science fiction and film noir. Indeed, Toran offers a hybrid form of practice which seems to embrace each of the literary modes or genres necessary to Deleuze's books of philosophy. The direct quotation of objects from Toran and Kular's *The Maguffin Library* says something of the pataphysical technique of reverse archaeology and the thought experiment of David Lewis's counterfactuals and possible worlds. Toran & Kular's *Maltese Falcon* also intersects with Deleuze's interest in the Serie Noire and with the pataphysical interest in crime fiction expressed in the Oulipopo, the *Workshop for Potential Literature of Police Procedurals*.³¹⁸

Toran's interest in the short form of the essay film bears comparison with the film-making of Resnais and especially the time-travel SF as detective fiction of *Je T'aime Je T'aime* and the film *Kiss Me Deadly* (Aldrich 1955). The latter is of interest to Toran precisely for its expression of an hybrid generic moment in which the noir detective film turns to the science fictional. A moment that Toran also identifies as the genesis of the object as protagonist in discussing

³¹⁸ For what should be considered Toran's contribution to the OuLiPoPo, see <http://noamtoran.com/NT2009/pub/one-that-got-away>

a series of films which have a similarly hybrid generic form (Toran 2011). In this Toran describes objects in ways that are suggestive of cyborgian soft machine-objects, which is to say, an unrecognised pataphysical precursor to Toran's practice is Jarry's proto-cyborgian *Supermale*, the first of the bachelor machines identified by Carrouges.

As is clear from the extant literature, the concept of the diegetic prototype as theorized by David Kirby, is a central concept adopted in codifications and theorisation of speculative design. For Sterling, Design Fiction is nothing else but defined by the making of "Diegetic Prototypes to suspend disbelief about change". A transmedia study of the diegesis of prototypes preceding this thesis, as co-investigator with the Emergent Objects (2004-2006) research project, investigated theatrical props and models of technical objects, acknowledging research other than the sources of Bleecker and Kirby. Recommendations of that research are extended in this thesis by the introduction of Souriau's non-hylomorphic diegesis to this discourse, as well as in developing an ontological sense of 'performing models'.³¹⁹ Which is to say bringing to the literature on architectural representation and its pataphysical implication (Frasconi et.al 2013) this sense of designing as non-hylomorphic for the ways in which this extends a discussion on the models and drawings of speculative design from the pataphysical concerns of Frascari and Robin Evans (1997). It would be productive to also hold in mind the notion that the simplest of prototypes of the bachelor machine, is that of Lautréamont's "*coupling of two realities irreconcilable in appearance, upon a plane which apparently does not suit them.*"

Noam Toran's insight amongst such chance encounters, is to bring to speculative objects what he perceives to be their cultural absorption of the

³¹⁹ A comparison remains to be made between Noam Toran's interest in Cronenberg's props in his developing a notion of the *object as protagonist* and Brejzek's 'performing' models. Related to this, although too late to feature in the thesis, is a personal engagement in Reza Negarestani's epistemological world remodelling of *'Toy Philosophy'* (2018). *NCRP October 2019-February 2019*).

techniques of film production, and how this might be abstracted to its props such that these objects, once extracted or everted from the cinematic space, encapsulate and condense narrative remainders. Rather than being dependent on an imposed categorising taxonomy of film, an evident interest in a politics of cinematic production extends to practices that pataphysicians describe as a *reverse archaeology*. This can be thought in terms of the reversal of an ekphrastic mode of writing which Jarry sometimes employed³²⁰ drawing from the 'Promenade Vernet' of Denis Diderot.³²¹

This aspect of pataphysical influence recalls Jarry's Ubu Roi as avant-garde originator/precursor to the Theatre of the Absurd, extending to speculative design a critical dimension via convergences between design prototyping and what Dunne and Toran describe as prop-making for imaginary films and which the 'lost film' of philo-fiction (Schmid 2016) the unmaking of film from the ruins of cinema (Thomson & Maglioni 2013-2016) similarly seeks to 'thinker' with pataphysical film props. It was also a reverse archaeology which everted pataphysical machines as the material evidence of science fictional culture and made of them sculptural artefacts for Harald Szeemann's exhibition *Bachelor Machines*; and it is a reverse archaeology of bachelor machines which enables Rod Dickenson to reconstruct the influencing machine of James Tilly Mathews. There is a sense in which Dunne seems to feel the objectile and modulatory power of his science fictional props that can be extended from his Burroughsian reference to the diegetic prototype as a kind of language virus:

When these props are introduced into everyday life as a "virus," subverting it, people can participate in the story, exploring the boundaries between what is and what might be. Dunne 2008:67

³²⁰ See for example *Faustroll*: 88-94.

³²¹ see Tunsiall (2001); Hayes (1996).

The sense of the science fictional prop that Dunne develops in *Hertzian Tales* we might associate with what Gary Genosko, in *Baudrillard and Signs*, identifies, along similar lines: as Baudrillard's *Wily Props and Vengeful Objects* with Artaud's Theatre of Cruelty, and by extension to the Théâtre Alfred-Jarry, which Artaud together with Vitrac conceived and established. Dunne's theatrical references in *Hertzian Tales* are Brechtian³²² and to the Russian formalists, especially to Schklovsky from which spring the science fictional concepts of the novum and cognitive estrangement. These provide the dimension of Baudrillard's (and Dunne's) wily prop. The term 'wily' brings mind the cunning engines of Sawday (2007), and Wolfe (2006). What Lightsey (2007) terms the man-made marvels of medieval culture³²³ are entirely pataphysical in their continuity with the estangement of objects in the science-fictional mode of speculative design. The references in *Hertzian Tales*, to '*wily objects*' as *props or simulacra*', though, also leads also to Baudrillard's '*The Revenge of the Crystal*' (1990) in which a fictional world of the virus is, inevitably, now everywhere:

Everywhere it is the virus of potentialisation and of the mise en abyme which triumphs, transporting us to ecstasy and ecstatic indifference.

Baudrillard, echoing Ballard's *Fictions of All Kinds* (1971) for whom, everywhere and everything is a game of signs – of makeup, scenography and props – and in which authentic historical artifacts - actualities - might be exchanged for a science fiction prop or simulacra. The language of props as actualities or simulacra used here, stems not only from Baudrillard but from an older source (Dutton-Cook 1878), one that reinforces a connectivity with the possible worlds of architecture fiction and a renaissance imagination of simulacra and eidola. This brings the mode and genre of props in speculative

³²² The Brechtian dimension of agit-prop might be considered another dimension of the 'prop', that is, as propaganda. see Matthews, 2007 who puts this into relation with visionary architecture.

³²³ Devices of Flusser's cunning designer (Flusser 2012) 'wily' recalls the cunning engines of Flusser's etymology of Design and cartoon inventions of the Acme catalogue of *Looney Tunes* (Jones, C 1949-1964). Dominic Singleton's reference (2013) to wile, cunning engines and crafty metis, I discuss in Hales (2016).

design closer to Deleuze than to Baudrillard, and is essential to the claim of this thesis of props and actualities of speculative design as technographic.

3.10.3 The Diegetic Prototype and Etienne Souriau's Modes of Existence

As we have seen, tendencies discernable from a nomadic distribution of speculative design consistently express themselves as prototyping and world-making scenarios, and in the making and framings of what Darko Suvin termed '*novum objects*'. Dunne applies to David Kirby's definition of the diegetic prototype the *novum*, further aligning this with the concepts of defamiliarization and estrangement. The concept of diegetic prototyping is the central conceit for both critical design and design fiction and yet its provenance is taken largely for granted and the philosophical implications of the possibility and impossibility³²⁴ of its science fictional source material hardly discussed.

Critical Design's translation of diegetic objects from cinema to gallery, exhibition and museum, is a displacement of cinematic design's objects (props) and the means of their production as much as it is the making and unmaking of a cinema of things out of the debris – to utilise and invert Thomson & Maglioni's practice – out of what was formerly known as industrial design. The status of the diegetic prototype as protagonist, is the functioning of the object as macguffin and the cybertechno-thriller-like functioning of the R&D artifact as *novum*. Which is to say, that what Suvin names the *novum* object we will consider a pataphysical clinamen; a 'necessary irritant'³²⁵ within the diegesis of an architectural fiction: the *novum* objects of Design Fiction are what Deleuze might describe as 'working' as the philosophical objects of "a

³²⁴ Take Arthur C. Clarke/ Stanley Kubrick's 2001a model of verisimilitude for Kirby (2011:8), but not for the alien logic of the Monolith its *novum* object and an impossibility for diegetic prototyping; see also Arthur C. Clarke, *Profiles of the Future: An Inquiry into the Limits of the Possible*. Millennium Edition. London UK: Orion Books Ltd, 1999 for his own consideration of the impossible.

³²⁵ Curtis 2002.

very particular species of detective novel, in part a kind of science fiction"
(2004: xix).

In critical design, we have seen the prototype serve as what Noam Toran describes as a 'philosophical' protagonist³²⁶ (2013) and finding these in philosophical crannies. Speculative Design as might be conceived from Toran's practice has implications for the means of "*reflecting upon the interrelations of cinema, history, design and memory*". Toran here reconfigures the 'novum' objects of science, fiction and design as a "space for speculation and interpretation". Toran's object-protagonists are part of a thought experiment of the gadget, device and bachelor machine in which 'philosophical' protagonists occupy the space of a speculative dimension of time.

What Berardi terms the infinite present and Jarry the imaginary present each involve Bergson's concept of duration. The tension between these temporalities enables the Thesis to consider a kairopolitical³²⁷ aspect of speculative design, by deploying science fictional aspects of Deleuze's concept of the crystal-image of time. This is to say, Toran's practice is emblematic of the ways in which design fictional objects take on a kind of force from the future, they are shards of what Deleuze calls the time-image, shards of crystal-images, a form of temporality which Deleuze assigns to films in which in the recording of memory confuses psychic and physical time and fluctuates between virtual and actual. (Deleuze: 2000). In *Gilles Deleuze's Time Machine*, David N Rodowick (1997:94-95) offers three senses of time categorised from Deleuze's two books on Cinema: [1] time as the movement image; [2] the movement of time-image; and [3] the appearance of time itself. It is in the concept of 'crystal-image' that the science fictional dimensions of time-travel, telepathy and memory are discussed in non-generic SF terms by Deleuze (1989 44-78). His notion of the time-image depends on Bergson's

³²⁶ Toran (2013) at which Levi Bryant (Democracy of Objects) Rob O'Neil film maker for Dreamworks and SF theorist share the billing with Margo Bistis and Norman Klein.

³²⁷ For a related yet divergent development of the kairopolitical action to that of this thesis see Adams (2014).

view of memory and as such can strongly be related to Jarry's *How to Construct a Time Machine* for this involves Bergson's ideas and, although there is no direct comparison made by Deleuze, we can compare the 'direct-image of time' with Bergson's *durée*. Whilst Deleuze does not make this observation, there is a time-machine constructed for the science fiction cinema referenced by him. It is within the film *Je T'aime Je T'aime* directed by Resnais (1968) with the scenarist, and pataphysician, Jacques Sternberg.

Toran encapsulates and condenses narrative remainders of cinema as the actualised psychic technique of cinematic space in compelling performative prototypes. These resonate with Franco Berardi's symptomatology of the impact of semiocapital on neuro-psychic energies. Berardi describes the compelling of cognitive activity to follow the rhythm of networked productivity which stresses cognition - in Toran's case cognitive cinema – to its limit:

Cyberspace overloads cybertime, because cyberspace is an unbounded sphere whose speed can accelerate without limits, while cybertime (the organic time of attention, memory, imagination) cannot be sped up beyond a certain point—or it cracks. And it actually is cracking, collapsing under the stress of hyper-productivity. (Berardi 2010).

The kind of fabrication of objects referred to as diegetic prototypes within the literature on speculative design take on an ekphrastic and numerological abstraction of cinema as its mode of existence:

The electronic image, that is, the tele and video image, the numerical image coming into being, either had to transform cinema or to replace it [...] they are the object of a perpetual reorganization, in which a new image can arise from any point whatever of the preceding image [...]
Cinema 2 2000:265.

The phrase 'mode of existence' is that of becomings in the diegesis of Etienne Souriau (2015), which it is suggested by this thesis, is useful in speculating that diegetic prototypes consist of the actualisation and becoming of technical objects. This provides the diegetic prototype an alternative ontological lineage in the philosophy of Etienne Souriau and that of Simondon (2016) which in turn bring this within reach of the Deleuzian objectile of interest of this thesis. Whilst this complexifies exemplars of design fictions and speculative design as concerned with the 'suspension of disbelief', thinking diegetic prototypes in this way reveals something of a different order or mentality, what Souriau describes as a mode of existence, an ontological conception shared with Gilbert Simondon's philosophy of technical objects.

In applying such thinking to the production of subjectivities in diegetic prototyping, there is with Souriau's notion of diegesis a resonance between the prototyping of design through fictive and speculative materialities, and the production of subjectivities expressed in the essay films of Marker, and those science fictional 'tube-tracts' of Thomson and Maglioni. Indeed, where the Otolith Groups films, which are a part of this field, construct science fictional scenarios, Thomson and Maglioni's tube-tracts are even closer to the design fiction film as a form of reverse archaeology. It will be worth recalling that this is especially clear with their docu-fictional *unmaking*³²⁸ and *seeances*³²⁹ of Guattari's unflimed 'found' film-script about a molecular alien life-form 'In search of UIQ' and of resonances with the molecular pataphysical transformation machines of Carrouges. The codification of Critical Design and Design Fiction props and prototypes as diegetic, needs this pataphysical and equivalent diegesis to help it think its futures, not as the diegetic suspension of disbelief about change, but as prototyping artefacts kairopolitically: to

³²⁸ The term unmaking is also in peculiar subjacency to the unmaking or defuturing described by Tony Fry.

³²⁹ Without wishing to make too much of this, the seeances recall both a pataphysical concern with telepathy and eternality and an occultural dimension to cybernetics and kairopolitics taken by Suzanne Treister in *Hexen 2039* (2008), the *Hexen Tarot* and *Hexen 2.0* (2012). Of related interest is Hexen's pataphysical R&D lab the Institute of *Militronics and Advanced Time Interventionality*. (IMATI), London.

rethink from outside of the time-frame, for example, of the 'artefact from the future' (Candy 2010) as something strongly relating to futurological methodologies, and instead consider the possibility of Kairos offered by Antonio Negri (2003) and by configuring Berardi's futurity in opposition to the chronopolitics of the science of the artificial, that is to say, as pataphysical.

3.10.4 Diegetic Prototypes and Architecture Fiction

There is a doubled sense of *drawing* as pataphysical machine, as the drawing 'of raw materials from the well of chaos' and a speculative design drawing, or model or film, as a kind of augury: of the speculative design artefact as a technographic assemblage. The signaletic systems of speculative design are affective and philosophical *drawings* - drawing with film and with models and prototypes of a speculative hardware and what is an expanded sense of Frascari's term 'technography'. Closer dialogue with Marco Frascari's concept of technography revived as a non-hylomorphic designing, shifts the philosophical grounding of diegesis from its association with that of Plato, and its counterpart mimesis in the scenario toward our cinematic rendering of Souriau's diegesis as a mode of existence in designing the becomings of technical objects.

If the shards of Deleuze's seeds of time can be said to have entered the media system of architectural fiction through the diegetic prototyping of 'time machines', then designer Perry Kulper, who acknowledges a "*latent pataphysics*" (Kulper (2016) in his architectural work, is also compelled to work with what he describes as "*hybrid film construct pieces*". He is drawn to these constructs "*largely because of the temporal splits and jumps and possibilities to compress alternate realities together—the temporal disposition rather than the illustrative. But I don't know anything about film. I might be able to do something...*" (ibid).³³⁰

³³⁰ Kulper, Perry (2016) <http://washmagazine.com/Perry-Kulper-Interview->

Kulper seems to be possessed by and yet only partially sense the absorption of the prop as technique in ways Toran suggests cinematic audiences have internalised. Yet Kulper attunes his drawings to this temporal disposition of the cinema in his collaboration with Nat Chard's paradoxical machines (Chard & Kulper 2014). Similarly, the architectural fiction of Bryan Cantley sometimes incorporate objects within drawings; and Smout Allen augment their landscapes with future fictions (2007); whilst Shaun Murray (2006, 2012a, 2012b) creates speculative objects as lures for the virtual, which are then captured by 'working' drawings.³³¹

In speculative design practice, there is an affirmative, yet paranoiac, encounter with design and with the technical media that takes place in its emphasis on expanded practices of collage, to what Kulper terms 'hybrid film construct pieces' and the graphical objects rendered as sculptural in Toran's object as protagonist and the essay film. This allows us to exemplify the future affective possibilities of diegetic prototypes as a speculative, deploying, again, Deleuze's sense of the signaletic, which:

includes all kinds of modulation features, sensory (visual and sound), kinetic, intensive, affective, rhythmic, tonal, and even verbal (oral and written). [...] But, even with its verbal elements, this is neither a language system nor a language. It is a plastic mass, an a-signifying and a-syntactic material, a material not formed linguistically even though it is not amorphous, and is formed semiotically, aesthetically, and pragmatically. It is a condition, anterior by right to what it conditions. (Deleuze 1989:29-33).

The present thesis suggests such a signaletic definition of speculative design is frequently akin to a *rube-machine*³³² which occasionally opens it to a

³³¹ Murray (2006).

³³² For example, David Benque's *Fabulous Fabbers* (2010) or *Atelier van Lieshout, Welcoming Centre*, 2007, and Revital Cohen. *Respiratory Dog*, 2008. but best exemplified by Deleuze & Guattari and their observation of Robert Gie and the inclusion of rube-machine illustrations in the appendix to *Anti-Oedipus*.—'You Sap mail that Letter'; and 'Simple Reducing Machine'.

hammer-space dimension of the cartoon and comic illustration, but more frequently as an abstract machine rendered as a film still, or 'drawn' out from within the frame, captured as a prop from an essay-film in hybrid set-pieces.

Alternatively, then, speculative objects are extracted from fiction to function signaletically, whether from film or literature, as the complicated pleasures of the cinematic instances of Toran's own films or the scenario of a possible future.³³³ Such a hardware as Toran's can be defined as a technological object designed as if in a speculative relation with cinematic flows –the energetic flow of desire or imagined preferences. By designing speculative hardware,³³⁴ Toran and D&R imagine users caught up in imagined and invisible forces of rube and bachelor machines comprising the object as protagonist. These designers, design the 'gates' and 'traps' of which Vilém Flusser speaks in his etymology of the word 'design' (1995). These traps, by a similar logic, are those from which the designer, as with the artists of the OuLiPo, make but from which they seek to escape. Perhaps these traps are also those of Michael Moorcock's New Wave anthology, *The Traps of Time (1979:199-207)* which includes Dr Faustroll's paper, *How to Construct a Time Machine*. Speculative design imagines the gadgets of a people to come as if trapped by the schizophrenic flows of energy of a future earth, from which Matthews, the inventor of Dickenson's *Influencing Machine* (Tausk 1933) or the similarly configured machines designed by Robert Gie, are unable to free themselves.

The novum objects of pataphysical fictions allow speculative designers to connect to the paranoiac or miraculating machines of a future earth. Speculative design thus expresses its allegiances to the combination and recombination of potent conditions in processes and prototypes of the

³³³ See Toran's Talk Complicated objects for the Strelka Institute available at <http://strelka.com/en/videos/event/2011/08/04/complicated-objects-noam-toran-on-the-narrative-possibilities-of-objects-in-cinema> accessed July 2018.

³³⁴ In the functioning device art of the artist Martin Howse's *Our Lady of Sorrows* and the *Black Death Synthesiser* these electronic devices exceed Dunne's parafunctioning objects by working to suspend disbelief as diegetic prototypes but are produced in artistic *editions* and a pataphysical science fiction made psychogeophysical.

modulation of materialities - a power that Deleuze assigns the objectile - and as a modulatory power it is proper to question the signaletic, this is to say, the temporal and affective aspect of these as pataphysical fictions, as expressing a politics of futurity. For example, in what Kulper's 'latent pataphysics' encapsulates as *'temporal splits and jumps'* of *'hybrid film construct pieces'*, as well as what he identifies as the problem of naming possibilities, with which to *'compress alternate realities together—the temporal disposition rather than the illustrative'*. Kulper (2016)

3.11.0 SYZYGY#11:

ARCHITECTURE FICTION AND PATAPHYSICAL MACHINES

In *Hertzian Tales*, Dunne extends his lineage of architectural objects into radical pedagogies of architecture and its publications.³³⁵ A reference to Kei'Ichi' Irie's review (1993) of Architectural Association Unit 3 '*Objects in the Landscape*' is not illustrated³³⁶ by the exegesis and neglects to acknowledge the tutors of the Unit. These were David Greene with Shin Egashira.

In the *Exegesis* Dunne suggests that to explore the role of the designer as author "*it is necessary to turn first to architecture*" (1997:57) and whilst both D&R had each studied and subsequently worked at the RCA Computer Related Design department,³³⁷ it is significant that Fiona Raby's previous studies had been in architecture³³⁸ as it is at least conceivable that this is a likely source of the commitment to architectural fiction in Dunne's *Hertzian Tales*. Whilst it would be logical to attribute interest in architecture of the *Exegesis* on speculative design principally to Raby, Dunne also acknowledges the importance of his own guest "*tutoring at the AA*" and at the Bartlett³³⁹ for the development of his ideas, and this goes some way to explain *exegetical* reference to architectural '*objects in the landscape*'.³⁴⁰ D&R note

³³⁵ The Architectural Associations AA Files is the only explicitly referenced of these sources.

³³⁶ *Objects in the Landscape & Instruments- Perceptual Horizons* AA Files No 25.

³³⁷ Then under the direction of Gillian Crampton Smith, and subsequently Irena Mckara Mcwilliam.

³³⁸ Raby's postgraduate study was broadly speaking contiguous with my own architectural studies (1984-1990) where I experienced my own version of a peculiarly British pedagogic alignment of design methods research (Jaki Howes & Geoff Calderbank), radical design (Arthur Quarmby), and eccentric invention (Wilf Lunn).

³³⁹ The Architectural Association, London and The Bartlett School of Architecture, University of Central London.

³⁴⁰ The references to architectural teaching in 1992 are not in the published version of Dunne's Thesis *Hertzian tales* but are in the appendix to his submitted Thesis Dunne (1997) PhD Thesis, 1997:113.

"5.0 The Bartlett.

As part-time tutor in Intermediate Unit 4 (with Simon Herron and George Katrodytis), the Bartlett School of Architecture at University College London. I was exposed to a conceptual

that visionary architecture is 'social' and 'outwardly oriented' whilst *paper architecture* is often 'introspective' and concerned only with 'architectural history' (2013:23) assigning, or relegating, John Hejduk (2013:106) to an "*imaginary architecture*" in ways reminiscent of Dunne earlier criticism of Lebbeus Woods.

*Cyberspace Anarchitecture as Jungle-War*³⁴¹

Reference to Architecture and the architectural fiction is extensive in the exegesis, a continuous resource for D&R over their 20-year reflection and development of their practice. Dunne refers his readers across *Hertzian Tales* to the following list of architectural practitioners: Coates; Tschumi; Sorkin; Beevor; Bolles+Wilson; Nicholson; Ito; Webb; Woods; Kipnis; Le Corbusier; Diller + Scofidio; K/K Research & Development; Herzog & de Meuron; Denari. This list is further extended by D&R in *Speculative Everything* by 'radical architecture'³⁴² from the 1960s and 1970s, addressing a lineage for Critical Design peculiarly missing in the earlier *Hertzian Tales*: Archigram, Archizoom, Superstudio, Antfarm, Haus Rucher–Co, and Walter Pichler. D&R's own project, *Fields and Thresholds*, is received as architecture fiction by readers of *Architects in Cyberspace* (Spiller 1995).³⁴³ Reference to this publication, oddly, is missing from *Hertzian Tales*, as is the significant discussion on the

approach to architecture which I felt represented a form of design as research. This inspired me to explore how product design could be approached in a similarly abstract way."

"6.0 AA.

As part-time tutor in Intermediate Unit 2 at the Architectural Association School of Architecture, London, I enjoyed a similar experience to that at the Bartlett. It helped to put into context many architectural projects I found interesting."

³⁴¹ The title of Nick Land's essay for the AD issue on Architects in Cyberspace, edited by Neil Spiller (1995: 58-9)

³⁴² Given the influence of Baudrillard to *Hertzian Tales* it seems an oversight not to have included Utopie in this listing.

³⁴³ Spiller's contribution extends the renaissance imaginaries of the Hypnerotomachia with the Memory Palaces of Francis Yates and extends dreaming objects and architectural dreams with his notion of a spatiality of nano-dreamtime.

gadget that might be excavated from Reyner Banham³⁴⁴ and Independent Group contributions to coldwar era issues of the Architectural Review and AD.³⁴⁵ The influence of single issues of AD including pataphysician Thiery Foulc's contribution to the issue '*Games of Architecture*' (Harrison & Turnbull 1996:57-9), the turn to '*Architects in Cyberspace*' (Spiller 1995) and to the computational '*Folding in Architecture*' (Lynne 1993) chart a tensile relation between the pataphysical, the technical virtual and its philosophical double and were formative to subsequent induction into the 'practice of architecture by other means' to use a reversal of an expression of Bernard Cache and an immersion in abstract culture.³⁴⁶ Whilst AD and similar sites of communication have been singular in their significance to the gestation of this thesis, (Parnell 2011) it is not an intention to include a literature review of all radical architectural publications or 'little magazines' (Colomina 2010) or to survey the field of architectural production in all its communicative complexity for its pataphysical fictions, but to provide a supplement to a partial and autobiographical recovery in architectural and science fictions.³⁴⁷ These have something to contribute to Dunne's narrative of architectural fictions of architectural objects, and of the lineage of science fictional and 'futures' reference in speculative design.

Dunne seems to confirm a feeling that the architectural influence is of ongoing significance to his practice in his commentary to a book selection he provides for the *designersbooks* website³⁴⁸. In this he expresses an interest in books

³⁴⁴ Whilst Banham's *Theory and Design in the First Machine Age* (1960) and *Design by Choice* (1981) are included in *Hertzian Tales*, members of the Independent Group are not.

³⁴⁵ Especially AD space-technology transfer issue (February 1967) which included John McHale's essay "the future of the future". The AD article is published two years before McHale's book of the same title.

³⁴⁶ I refer here to an immersion as autodidact and artistic research event producer.

³⁴⁷ autobiographical, at least inasmuch that pursuing this thesis became pivotal to my exiting a career in technological R&D and media art and returning to architectural practice and education.

³⁴⁸ Dunne (2013a) <http://www.designersandbooks.com/designer/booklist/anthony-dunne> (accessed August 2018); Raby (2013a) <http://www.designersandbooks.com/designer/booklist/fiona-raby> it is interesting to contrast the book selections of Dunne & Raby with Raby's, the more science fictionally inflected of the two: *The Book of Dave (Self)*, *Codex Seraphinianus (Serafini)*, *Oryx and Crake (Atwood)*, *Positron (Atwood)*, *Super-Cannes (Ballard)*, *The Wind-Up Bird Chronicle (Murakami)*.

that delve into “parallel worlds, imagination, and unreality”. Amongst the books selected is Daniel Libeskind’s *Between Zero and Infinity* (1981).

I was given this book when I was in my first year at the Royal College of Art for a project we were doing about drawing the invisible.” He says, “It opened my mind to the possibility of designing things that didn’t have to be real, didn’t even have to be built, but could happily exist as a drawing or an idea. Dunne (2013a).

Furthermore, whilst it may be Deleuzian delusion, or a product of a paranoid methodology, noting similarity between Libeskind’s book title with the claim by Jarry, in *Faustroll*: “God is the tangential point *between zero and infinity*”³⁴⁹ is inescapable. Whilst Libeskind’s *three architectural machines* are perhaps not typical of the architectural projects listed in *Hertzian Tales*, these are representative of what can be called pataphysical fictions of architectural machines. The unspoken presence of Libeskind’s machines in Dunne’s recollection, forges relations with the reading/memory/writing machines of Roussel in their representation by pataphysicians; as well as foregrounding a connectivity with the renaissance imaginaries of both architectural machines and the landscapes of memory informing Jarry’s pataphysics.

3.11.1 Architecture and Pataphysical Patentry

Given the care taken to extend the visibility of an architectural lineage for Speculative Design and its roots in the radical pedagogies of the Architectural Association in Dunne’s *Exegesis*, it is surprising not to find in it Rem Koolhaas’s fictional patents³⁵⁰ amongst the architecture fictions listed.

³⁴⁹ my emphasis.

³⁵⁰ Listed by Koolhaas (2004) in *Content: Triumph of Realization* under the listing of “Universal Modernization Patents” fifteen fictional patents, are Social Condenser (Parc de la Villette), Strategy of the Void I (Melun-Sénart), Timed Erasures (La Defense), Loop Trick (Kunsthall), Strategy of the Void II (TGB), Stacked Freedoms (Karlsruhe), Inside-Out City (Jussieu), Disconnect (Cardiff Bay Opera), Everywhere and Nowhere (Bordeaux), Variable-Speed Museum (Tate), Inertness Modified (Universal HQ), Tall & Slender (Hyperbuilding), Skyscraper Loop (CCTV), Cake-Tin Architecture (TVCC), The End of the Road (CBD Beijing).

Further to this thought then, Koolhaas, at the Venice Biennale (2014) also acknowledged the space of architecture as one of politics and economics, whilst simultaneously declaring that “*Architecture has become a total fiction*”, echoing the position expressed by J.G. Ballard (1971) in his '*Fictions of Every Kind*'.³⁵¹

Koolhaas's practice also reveals concern with intellectual property and the patenting of conceptual and abstract spatial ideas that is itself quite pataphysical. Three related pataphysical enterprises will suffice to substantiate this observation. Firstly, that the London Institute of Pataphysics *Department of Reconstructive Archaeology* established an *Office of Patentry*, putting out a call in 2003 “*for creators of inutilitous inventions and innocent machines.*” Secondly, that the Canadian pataphysician bpNichol, with apparent disregard to the occultation of the Collège between 1975-2000, founded a *Pataphysical Hardware Company*³⁵² publishing in 1992 the company catalogue of pataphysical product. Thirdly, that Jarry, in a section titled *Connaissance utiles et inventions nouvelles* of Ubu's *Second Almanac (1901)*, includes a 'confidential letter' from Pere Ubu, to one Monsieur Possible, of the *Bureau des Inventions et Brevets*.³⁵³

³⁵¹ Reprinted as part of the Accelerationist Reader (Mackay & Avanessian 2015:235-240).

³⁵² A parafictional company 'established' in 1944.

³⁵³ See Dubbelboer, Marieke. *The Subversive Poetics of Alfred Jarry: Ubusing Culture in the Almanac's Du Pere Ubu*, Routledge, 2017.

INSTITVTVM PATAPHYSICVM LONDINIENSE

Palatin 130 EP *April 2003 (vulg.)*

The Office of Patentry
a Department of
THE LONDON INSTITUTE OF 'PATAPHYSICS
issues this General

CALL

for applications for OffPat Patents

Prolegomenon. Humanity is in thrall to the functional, and the useful has inflicted its dreary utilitarianism upon the whole world. OffPat resists this unquestioning servitude by issuing legally worthless patents to the creators of inutitilious inventions and innocent machines.

How to Apply. Send a specification or description, as technical as necessary, and a visual rendering (drawing or photograph) of your invention to the LIP (c/o Bookart-bookshop, 17 Pitfield st., London N1 6HB). An anonymous committee will consider your application. If the invention is deemed to be useful, it will be rejected (and this is the *only* ground for rejection). Judgement will be subjective, and final. Applicants will be notified of the committee's verdict. Successful applicants may then purchase a sumptuous Off-Pat patent certificate for the sum of £11 plus £2 p&p.

Conditions. Applicants agree to the publication and/or exhibition of their applications whether they be successful or not. Rejected applications will be returned only if accompanied by an s.a.c., although the LIP will retain a copy. Applicants will, naturally, be informed of any exhibition or publication containing their work.

INSTITVTVM PATAPHYSICVM LONDINIENSE

Figure 9. London Institute of Pataphysics Office of Patentry: CALL for Patents (2003).

3.11.2 Pataphysics in the Architectural Humanities

With regard the architectural imaginaries of the objectile, Bernard Cache's numerical and computational image was a repression of his subsequent turn toward the imaginative media of the architectural treatise, and the architecture fiction of Philibert de L'Orme. L'Orme's treatise has both Epicurean and Rabelaisian sources which had appeal for Jarry. Whilst the pataphysical topologies of interest are not those theatrical ones of Salazar-Sutil (2013), the rendering of space and object, time and environs of Jarry's pataphysics are topologically continuous with the architectural treatise of de L'Orme, each depicted in a landscape garden, or second world. From Robert Harbison's 'Eccentric Spaces', to gardens of architecture fiction: the *Hypnerotomachia Poliphili*, in Jarry's *Messaline*, the Garden of Lucullus, Roussel's *Locus Solus* and Moorcock's *Pleasure Gardens of Phillippe Sagittarius*, these architectural fictions of landscape,³⁵⁴ a primary resource for architectural imagining, are interleaved with the possible worlds of the objectile. Cache's renaissance influence and that of Jarry's coincide, at least in-so-far as a Rabelaisian architecture fiction, the Abbey of Thelema, from Gargantua and Pantagruel, an influence on Jarry is also an influence on Philibert de L'Orme the architectural fiction with which Cache is enthralled by in imagining his own imaginary machinery. To provide a partial justification for these tangents, putting such conjecture to one side, D&R also recognise the genealogy of architecture fiction, paper architecture and, by free association, the architectural treatise. This association is made in their observations on speculative design and an equivalent text to the *Hypnerotomachia Poliphili*, the *Codex Seraphinianus*, which they describe as a "cult book surrounded by mystery. It portrays an imaginary world..."³⁵⁵

³⁵⁴ see also Manaugh (2013) Landscape Futures for examples of how these actualise in design fictional artefacts.

³⁵⁵ Dunne & Raby (2013:111).

Michael Webb's quizzical submersible from *Temple Island*, pictured as a 'Pepperland' regatta of the mobile point of view and the indeterminacy of memory;³⁵⁶ David Greene's *rokplug*, *LogPlug*, and *L.A.W.u.N* project; and Neil Spiller's cyborgian island geographies of *Communicating Vessels* as well the architecture fictions of Francois Roche and R&Sie, are each possessed of a peculiar pastoralism which in Greene's terms are 'cybucolic'³⁵⁷ and Spiller might term cybaroque.³⁵⁸ These are the principal, architectural inheritors of an apocalyptic, visionary, and phylogenetic line that the pataphysical clinamen contributes to the corpus of architectural humanities writing; a cultural incursion, of a veering and pataphysical swerve recognisable as an encounter between post-deleuzian philosophy, pataphysics and speculative objectiles.³⁵⁹

This encounter substitutes the science of imaginary solutions for the science of the artificial; pataphysics offers to design another of its definitions: "Pataphysics is the science of these beings and current or future machines (engins) with the Power of their use (discipulus)..."³⁶⁰ An interest in the becoming of 'future beings' and their pataphysical 'engins' can be assimilated within a more general interest of the architectural humanities between architecture and the machine. It is usual for accounts of this pataphysical interest³⁶¹ to begin with Vitruvius' treatise *On Architecture*: Book X, on Machines. Book VIII of this treatise is on Hydraulics. It is in hydraulics that Michel Serres, in the *Birth of Physics* (2000:84) sees "numerous intersections with Lucretius". Vitruvius is regarded as a selective reader of Lucretius

³⁵⁶ the monograph on Michael Webb *Two Journeys* (Simone 2018) proves an account of his project. The Pepperland reference is made by Michael Sorkin in *Temple Island*, the association of this to the Beatles Pepperland as 'quizzical and pataphysical' is not confirmed or denied by Webb (personal communication), but it seems to be the case that a Duchampian optics is involved.

³⁵⁷ Greene RAE 2008 narrative submission, University of Westminster.

³⁵⁸ A term also used for a programme of events addressing the interface between physical and 'virtual worlds' for the RCA by Nigel Coates (1997).

³⁵⁹ Hales (2016); (2017).

³⁶⁰ Jarry 'Present and Future Visions', in Edwards and Melville, trans. *Adventures in 'Pataphysics*, 2001:202 "*La Pataphysique est la science de ces êtres et engins actuels ou futurs avec le Pouvoir de leur Usage (discipulus)...* Alfred Jarry. *Oevres Complète*, ed. Michel Arrivé, Gallimard, 1972:341. [modified translation].

³⁶¹ see Olshovsky (2012); and, Olshavsky (2011).

(Weiner 2016:133-161); and Jarry, who maintained he was not the inventor of pataphysics merely its discoverer, likewise, is a mis-reader of Lucretius, Leibniz and Bergson, introducing deliberate errors in his application of their ideas. Henceforth, Vitruvius's reading of Lucretius and the hydraulic and speculative machines of Books VIII and X, if the pataphysical logic of equivalent books established by Jarry and listed in *Faustroll* is adopted, will be taken as commencing another series of equivalents to Jarry's books interleaving their depiction of pataphysical machines.

Jarry also invests some sense of the medieval marvellous (Lightsey 2007). in the machine, and this is invested in Faustroll's time-machine and the painting machine *Clinamen*. As has been noted already in this thesis, foremost amongst Jarry's machines is the *Clinamen*. Other machines devices and 'engins' such as Faustroll's painting machine, include the apparatus dispensing the perpetual motion food of Supermale, its flying gyroscopic train engine, and the Supermale, a proto-cyborg and bachelor machine. Faustroll, as well as inventing *Clinamen*, also provides instructions for the construction of a *time-machine* as we have already had cause to note. These all manifest as a seam of the 'as-if' pataphysical realm available to the 20th century in consequence of a 'resurrection' of the clinamen Warren Motte (1986) attributes to Jarry, and are a resource largely untapped by speculative designers.

Practitioners of what can be termed a pataphysical mode³⁶² of architectural writing, draw on the association of architectural and pataphysical machines. Such writers include Alberto Perez-Gomez and Louise Pelletier (1997:293), Robin Evans (2000:273), Marco Frascari (1991:61-76), and Anthony Vidler (1992:160) as well as Georges Teyssot (1994:8-35). In the architecture fictions of these authors, architectural histories written under a pataphysical charm, the term clinamen is only rarely invoked directly. However, in

³⁶² A pataphysical mode which might be compared to arguments about genres or modes of science fiction writing.

Clinamen's guise as the machine, as monstrous and anomalous, a pataphysical clinamen makes deep, if fleeting, incursions into the disciplinary apparatus³⁶³ of architecture.

Much of this is can be substantiated only after the influence of Marcel Duchamp and architectural analyses of the *Large Glass*.³⁶⁴ Nonetheless, in this register of the corpus of architectural writing, the combinatorial, the monstrous or mutated, and the exceptional or anomalous image of material error in architecture, parallels similar concepts as they developed in the literatures of anti-constraint and chance operations in artistic and software cultures, a coincidence observable in Szeemann's *Light & Movement: Kinetic Art and New Tendencies in Architecture*.

Thus, pataphysical fiction is informed by a tradition of architectural machine fantasies, from those of Colonna to the 'pataphysical conspiracies' (Birkstead 2009:267) of Jean-Jaques Lequeu and in turn informs architectures of the cybaroque and cybucolic. These influences are extended to the radical design and architecture of 196x-197x with its sources in cold-war communications theories and cybernetics, in the pataphysics issue of the *Evergreen Review*, and a concern to escape control and embrace error and the indeterminate. To the specifically architectural implications in the works of Spiller, Greene and R&Sie, must be added a marginal reference by Peter Cook (1983), to a "pataphysical promenade" in *Strange Pavilions of the Mind: The work of Diploma Unit 10 1973-1983 AA Files No.4*, an exhibition of Bernard Tschumi and Nigel Coates teaching Unit at the Architectural Association (Coates & Tschumi 1983). This supports the supposition of this thesis and suggests a deep incursion of this fugitive pataphysical figure into radical architectural and pedagogical discourse.

³⁶³ For its system of architectural theory see for example the discussion in Schumacher, P (2011: §2.1) *The emergence of architecture as a Self-Referential System*, in Schumacher *The Autopoiesis of Architecture Volume 1: A New Framework for Architecture*. Wiley, 2011.

³⁶⁴ Such as that by Kiesler (1937) and that of Richard Hamilton.

The spectre of Jarry's pataphysics, then, had continued influence in pataphysical fictions after 1947 and the Collège de 'Pataphysique and an international network of such institutions. Where Shattuck shows the pataphysical involvement of proto-modernisms we have seen how this had informed the counter-avant-garde of the Situationist International and Pop Art after the Independent Group, and in turn informs the prospective and conjectural mode of 21st Century in speculative and critical design. This vortex of fictional influences³⁶⁵ coalesces to confirm the architect Francois Roche's observation in *Matters of Fabulation* (Turpin 2013:197-208) that: "we might consider the fiction of architecture as a kind of pataphysics, as in the writing of Alfred Jarry".

3.11.3 Architecture, Technographies and Auguries

Philosophers Mock them, but I admire the rituals of augury, the close attention that haruspices pay to the meaning that traverses or resides in the world, prior to our intervention, whether physical or spoken; the very first observation, wherein perception precedes the utterance or evaluation of language. [...]. Augury opens a window in the sky that leads in to the prison of language, to Socrates gaol, to the theatre and the tribunal. This temple, this sacred space fashioned out of the air, is the fissure through which language comes undone, the interstice through which it breathes, the sense with which it begins, its precondition... Michel Serres, The Five Senses (100).

Baudrillard's (1993) apocalyptic augury is his oracular text *Pataphysics of the Year 2000*. Jarry's is published in 1901, the *Second Ubu Almanac*, in which real and imaginary dates are combined as potent augury of change, in parody of Nostradamus. Allegory "passes to augury", as Steven Connor (2009) puts

³⁶⁵ Roche's observation is from the position of architectural practice, has its own anxieties of influence in the Communicating Vessels project of Neil Spiller; for Spiller's account of his debt to pataphysics and the Hypnerotomachia Poliphili see his "Fictional Influences" in Hales (2013).

it, and in what amounts to a pataphysical swerve, Baudrillard (1994: 2) asserts that we have crossed into a space 'whose *curvature* is no longer that of the real' in which experience is replaced by a spatialised and combinatorial system of objects and equivalences. For Baudrillard, reality merely imitates the model, models precede and determine the real world in what he termed the precession of simulacra. There has been a continuous movement from allegories of simulacra to the auguries of simulation in post-futurological practices and architectural fiction. William Bogard, offers an alternative account of simulation (Bogard 1994) suggesting a "*pataphysics of simulation, a science of virtualisation as an imaginary solution*", and further, that "*pataphysics is the description of a technology in the mode of its future past*" (Bogard 1996).

In his analysis of Carlo Scarpa's Brion Cemetery, Marco Frascari excavates some of its architectural devices deeming these equivalent to the augurial staff or 'lituus'. These, Frascari suggests, function as instruments of architectural divination in similar sense Carrouges identifies, in *Bachelor Machines*, with the medium as three-dimensional intermediary between the second and fourth dimensions: they project a future architecture. They also bear a similarity, an equivalence even, to Ubu's Physic Stick and its alchemical presentation.³⁶⁶ Frascari intends that architects, by using their instruments as augurs and auspices, read (draw) a future architecture from the messiness of the constructed world, and proposes that augury "is a kind of corporeal time machine where the past, the present and the future are related architecturally through memory." (1991:61) Furthermore, he describes in some detail how such architectural time machines function like the

³⁶⁶ Jarry's physic stick is given the following discussion in the Baudrillard Dictionary under its 'pataphysics' entry by Gary Genosko "*The idea that Baudrillard's wily and active object that takes its revenge on the subject is a pure and enigmatic crystal that functions in Baudrillard's thought as a Jarryesque principle: the magical 'physics-stick' [sic] explicated by Faustroll and whose spinning flips back and forth from plus to minus, revealing the equality of opposites, infecting all registers with undecideability and randomness.*" in Smith, Richard G. *Baudrillard Dictionary*. Edinburgh University Press, 2010:151.

pataphysical one devised by Dr Faustroll where the past lies "*beyond the future in a theatre of memory*":

The technological figure in the Jarry machine is based on a contrasting and ironic use of materials, and metonymic use of shapes. Cheap materials are mated with expensive ones, the traditional with the unusual; ebony and ivory are coupled with nickel, quartz, and copper. A bicycle frame is the support for gyroscopes. This is a machine whose function is to nudge the visitor's thought processes to locate the past beyond the future in a theatre of memory. (Frascati 1991:61).

As we have seen, long before D&R were developing their *Fields and Thresholds* projects published in *Architects in Cyberspace*, David Greene's *Bottery* and other objects in the landscape, were beginning to chart the trajectory of what would become an 'internet of things', and would begin to investigate the flight of such technical objects out from the technical virtual into what William Gibson terms 'everted cyberspace'. Greene's and D&R's architectural and electronic objects are part of a general movement toward a fully speculative culture; part of the mechanism of hyperstitional acceleration in which design fictions of technical objects make themselves real.

[The] procedure is therefore more like augury than writing: first form the signs, knowing only how, never what, and then look to see if they signify anything, sometimes they do, sometimes they don't, sometimes good news, sometimes bad, sometimes nothing. Such a procedure shifts the weight of meaning from behind to in front, from before to after, from the verifiable to the unverifiable... (Evans 1983).

The methodologies constructed as an (imaginary) science, literature and media studies approach to architecture fiction for this thesis,³⁶⁷ have extended the nomadic plane of interest to probe the ideas of Robin Evans, containing as these do a sense of realities "*brought into existence through a given medium*" (Evans 1997:182) and in uncertain transit. Evans's idea of the uncertainty of translation, as a clinamen, as a navigation of potentialities of remote destinations, is illustrated in his inclusion of the following extract. It is from *Faustroll*, and used by Evans as an epigram to Chapter 7 *Comic Lines*, of *The Projective Cast: Architecture and its three Geometries*:

By pulling his guide ropes harder, he was able to bend the skiff appreciably; this was possible because his tiller did not simply control a flat rudder aft, but bent the long keel, from the fore-end, to left to right, upward and downward, according to his directional requirements.
Alfred Jarry, Exploits and Opinions of Dr Faustroll, Pataphysicist

Outside of the Exegesis of D&R, the pataphysical dimension of architectural machines extends from the literary to media studies and to the computational influence of pataphysical fictions in architecture. Architecture fiction, when given this consideration includes a manifestation of Raymond Roussel's *Locus Solus* as a pataphysical and mnemonic imaginary landscape superimposed over – interleaved with – Carlo Scarpa's Brion-Vega Cemetery in the analysis of Philippe Duboy (1975) and Marco Frascari (1985).

Marco Frascari's pataphysical technographies have influence on the plane of architectural fiction, and in concluding this section of the thesis this notion of technography is proposed as a model for *speculative* illustration and the diegetic prototype as a drawing,³⁶⁸ and that such an "*illustration is an area in*

³⁶⁷ For an alternative Rattenbury's *This is not Architecture*, where chapter authors write of relations between architecture and the mode of its representations, and architecture and its print cultures.

³⁶⁸ The sense of drawing used here, modifying Frascari, is as a drawing forth, a channeling of the matter-flow and designing as actualisation of the virtual.

which the aesthetics of unreality in varying degrees of abstraction can be enjoyed." (D&R 2013:102). The following will first discuss Frascari's technographic idea before identifying architectural illustrations that disclose an alternative authorial framework for design fiction.

With the notion of technography Frascari also introduced what he terms the 'auguries' of architecture's means of representation. As oracular and speculative, such tools have a relation to the future/past deserving of attention. The Deleuzian scholarship of Joshua Ramey (2016), draws on two of Frascari's sources, the semiotics of Charles S. Peirce (1955) and the political philosophy of Giambattista Vico (2001), to articulate a speculative position different to one that is loosed within, outside, beyond and upon the absolute unreason of speculative realism. Ramey's is a Deleuzian formulation of speculation, "*a realism of contingency without an axiom of unreason*". The divination practices of which Ramey writes parallel both the auguries of numerical images associated with hyperstition³⁶⁹ and the various cargo-cults of Ballard's speculative fiction which tend to be based around fetishised cargo-cult objectiles³⁷⁰ such as the numerological charts of the flight path of satellites, as well as those suggested by Frascari of architectural auguries. Like Ramey, the present thesis does not defend any actuality to these divinatory practices, but instead suggests, with Frascari, and certainly with Hyperstition and its Numogram that there is at least the possibility of a divinatory form of speculation that is adequate to architectures of contingency and indeterminacy. Auguries are expressed by Frascari in relation to a pataphysics of speculative instrumentaria, what he terms technographies, and yet the mention of speculative drawings such as Michael Webb's *Temple*

³⁶⁹ e.g. the CCRU Numogram.

³⁷⁰ The phrase cargo cult objectiles was deployed in the writing of curator Dane Sutherland in to *Exploit.zzxjoanw.Gen (2014)* an audio zine and in relation to O'Sullivan's *Plastique Fantastique* and by me for the *Vurt Role-Playing Game*. I borrow from Ballard's sense of the science fiction cargo cult in Frost, Andrew (2013) 'Cosmic Sentinels and Spiral Jetties: J.G.Ballard, Robert Smithson and Tacita Dean', <http://www.ballardian.com/cosmic-sentinels-spiral-jetties-ballard-smithson-dean> ; and have used this to write into Jeff Noon's *Vurt Roleplaying game* the objectile and the Cult of Rammellzee as explored by the writers of the game, in which they introduce a fictional version of Derek Hales as a researcher of objectiles embedding this person into their game.

Island within Dunne's *Exegesis* of critical design and design fiction appear without apparent implication to Dunne's practice and are notable in their absence in wider codifications.

Steven Connor applies the term technographies in his writing in *Dream Machines* (2017) to imagined and imaginary machines, paralleling Harbison's categories of the unbuilt and the unbuildable, whereas architectural theorist Marco Frascari had already described technographies as the "marvelous way of writing architecture [...] wonderful calligrams of technological thought" (1991:102). Frascari employs technographies in the manner of Mallarmé's disposition toward typography³⁷¹, the way Apollinaire employs calligrams – as constellations of the problem of relation between the senses. This is to say, to describe the drawing and designing of architectural images as having analogous relationships with the represented object able to shift the concern with design fictions to the science of imaginary solutions. This is also to shift the locus of technographies from the psychoanalytic to the schizoanalytic, moving from Connor's psychotechnographies to a schizoanalysis of fictional technical objects and speculative drawings. This also extends Frascari's use of the term in ways that are compatible with his heterodox and 'cyclical practice' but that bring together a range of representational modes (and the means) employed in the making of design fictions. To include, then, a list of items for a future media study of speculative design, technographies of the architectural, theatrical and product models, the essay film, constructed photography, scripts and scenarios, numerical, optical and notational speculation, reconstructed archaeologies, non-hylomorphic diegesis and ekphrastic prototypes.

Connor et al., provide useful and expansive etymological treatments of the use of technography in preparation for their Open Humanities book series.³⁷²

³⁷¹ Mallarmé's disposition toward typography might be seen to be expressed in Jarry's typography for his publications.

³⁷² <http://www.openhumanitiespress.org/books/series/technographies/> accessed August 2018.

Missing from their preliminary positioning accounts, though, is Frascari's earlier tracing of the origins of the term 'technography' to the technometric and technologia of the 17th century:

Technography can be explained within William Ames's technometric framework. Technography, like calligraphy, would belong to the group of the less dignified, but eminently productive faculties, which are not in themselves unworthy if they are practiced with natural talent rather than doing them "artificially". Frascari 1991:128 n.5.

Whilst admitting of significant divergences between such modes of the design fictional docu-fictions of tube-tracts and the printed renaissance architectural treatise the vedute paintings of 'made up' architectural scenes of partly or completely imaginary elements, known as capricci and vedute ideate, or the veduta di fantasia (Steil 2013), are distanced from the themes of this thesis but related nonetheless to demonstrations of the pataphysical *Clinamen*, the painting machine of *Faustroll* and his time machine. At this point in the discussion such architecture fictions and their pataphysical 'promenades' seem conspicuously absent from the *Exegesis* of D&R as well as that of other interlocutors. They exemplify a phylogenetic relation and are of a kind as demonstrations of fiction as method and of the ways in which these technographic fictions become real as architectural hyperstitutions.

Where Frascari's attention is attuned to the architectural object, his concern for potentialities between past, future and present can be abstracted from architecture to the artifact as a more general term and extrapolated to the making of architecture fiction and design fictions. The making of design fictional artifacts is an exercise of *fabricating*³⁷³ a fiction. As much as it is a prototype, it is a numerological, diagrammatic and notational invention, i.e. is the union of fabrication and reason in what Vaihinger terms a 'practical fiction'

³⁷³ Have in mind here Peter Cook's account of the interest of Archigram in fabricating and 'nuts and bolts'...as much as the fabrication of fiction as making things up.

(2009:42). The technographic results are non-trivial architectural artifacts for Frascari and artefacts from fictional worlds and possible futures for speculative design: attention to technographic detail is significant to each for the veracity and access this provides between realms and for potentialities between past, future and present – for imagining and fantasy involve the retrospective and prospective:

Retrospective construing is a monstrous procedure, which, through selection and manipulation of elements of the real, produces in future users/ readers a reconstruction of evident and nonevident connections with the physical and cultural context of the everyday environment.
(Frascari 1989:3:12)

This retrospective construing and prospective conjuring, for Frascari, is a unification of the made and the real, a making of the artificial through a process of architectural expression and the representation of architectural fantasy in which the imagination is stimulated, and it is in this stimulus that the possibility of architectural knowledge is created. Frascari's science of the artificial (the made) is a science of pataphysical exchange; an equivalence between fabrication and fabulation, and between the retrospective and the prospective. Technography conceptualises architectural representation as a process of semiosis in which Frascari draws upon the pataphysician Umberto Eco and the semiotics of Charles Sanders Pierce:

an infinite process of interpretation achieved with graphic signs" a calligram in which, "architects remember the past, experience the present, and anticipate the future experience of the constructed reality.
(Frascari 1991: 92)

After his evoking of the calligram Frascari develops his inscriptive notion of the palimpsest, which he uses to describe as technographic a demonstrative expression of a hypothetical basis in "three overlapping semiotic

relationships". In *Monsters of Architecture*, Frascari's use of the term 'demonstration' of the technical architectural object, he relates first to Vico's *monstrare*, and second to Jarry's sense of the monster as an inexhaustible beauty. Monster, from *monstrere*, also means to show, to demonstrate a progeny of monstrous doubles and paradoxes: Dr. Faustroll is of this nature of seeming opposites, similarly Pere Ubu, bound together only by a pataphysical energy, the spiral or gyre of his Gidouille, his belly or viscera.

The empty set of Bruce Sterling's hierarchy of design fictions as disbelief (Sterling 2013b) has at its highest level or plane, the holy relic. If this vacant slot is populated by a monstrence, which ritually displays the sacred host, as such monsters as these demonstrate the boundaries to the unknown, then the pataphysical machines of the beyond that Carrougues finds in his further research on pataphysical devices along with the function of the medium in *Les Machines Célibataires* demonstrate the spatial or dimensional boundaries of speculation and, to use another Jarryism, divulge its latent obscurities.

It is common usage to call 'monsters' an unfamiliar concord of dissonant elements: the centaur, the chimera, are thus defined for those without understanding. I call 'monster' all original inexhaustible beauty. Jarry (1895) *Les Monstres*, cited in Frascari 1991:33.

Of most interest to this thesis is Frascari's concept of the technographic in relation to the pataphysical imagination of Jarry's inventions: the time-machine and *Clinamen*. Given consideration of the diegetic prototype and architecture fiction as technographic, Massumi's, suggestion that what Deleuze describes using the neologism, or monstrously hybrid portmanteau word *objectile*, is assimilable to the Lucretian *clinamen* is tantalisingly pataphysical. Adapting Frascari's technographic terms, this is to see objectility as a demonstration of the technological object in a possible world shared by all those involved as designers and fabricators of the real. Which is to say that Frascari, like Deleuze, seems to proffer a modulatory objectile power to the

technographic artefact: *between a real artifact and the instrumental icon in the mind of someone involved in a building trade related to its construction*" (Fracari, 199194).³⁷⁴ In order that the concept of the objectile might be dislodged from the plane or strata of architecture on which it has become caught and to be mobilised for speculative design, a concluding aesthetico-conceptual construction of the research is conducted by a fourth and final part of the thesis which will conclude our assimilation the Deleuzian objectile to the pataphysical *clinamen*.

³⁷⁴ For a presentation of Fracari's sense of technography in relation to the imagination and outside of the Deleuze-Guattarian design philosophy proposed by this thesis see Ridgeway 2015.

PART FOUR: CLINAMEN & OBJECTILE

4.0.0 MASSUMI AND THE ASSIMILATION OF DELEUZE'S OBJECTILE TO THE CLINAMEN

An undeveloped hope of Franco Berardi is that an unlikely convergence of pataphysical simulacra and (bachelor) machinic desire (Berardi 2016) might offer vectors of escape out of what he describes as an impasse 'after the future' echoing the atemporality of Sterling. The research undertaken in this thesis has therefore been committed to a pataphysical and political aesthetics of imaginary solutions, one inherent to Franco Berardi's attempt to reconcile Jean Baudrillard's theory of simulacra with Gilles Deleuze and Félix Guattari's machinic politics. Rather than pursue Berardi's reconciliation directly in this thesis, a comparative approach has been taken in which the pataphysical gadget of Baudrillard's *System of Objects* has been taken to be coterminous with the pataphysical machines of Deleuze-Guattari's philosophical phylum. Berardi's argument in countering the new forms of capital of the philosophy of accelerationism, has been transposed by the thesis to question the aesthetico-political commitment of speculative design. By constructing a comparative encounter of pataphysical fictions with Baudrillard's *System of Objects* and Deleuze and Guattari's machinic philosophy vectors of this convergence have been explored in the science fictional and pataphysical *Syzygies* of the thesis, and it is these vectors which are used in the following pages which aim to give substance to Massumi's otherwise unsubstantiated supposition that the objectile is assimilable to the clinamen.

By way of its conclusion, the thesis approaches this assimilation by first providing a missing philosophical aspect to a literary theoretical redux of the clinamen which claims its source as Jarry's re-introduction of the concept; the second provides a redux of the objectile after the computational turn in architecture suggesting renewed relevance to speculative design research and the post-digital technographies explored in the *Syzygy#11*. The central methodological innovation of this conclusion is its deliberate misreading of Massumi's unsubstantiated claim that the Deleuzian objectile is assimilable to

the Lucretian clinamen. What is concluded by the thesis, is that prior to any assimilation of one concept [objectile] to the other [clinamen], that a pataphysical equivalence be assumed between the Lucretian clinamen with another of the same name – Clinamen, the machine invented by Jarry's pataphysician the fictional character Dr Faustroll. Thus, the thesis supplants an assumed Lucretian source for Massumi's footnoted assimilation, taking a clinamen after the concepts reception as a principle of the Collège de 'Pataphysique.

The thesis therefore undertakes the work necessary to perform the assimilation suggested by Massumi, and in providing a pataphysical objectile/clinamen, its aesthetico-political construction encapsulates a motive force which can be further mobilised for speculative technographies of design research. This motive force is one displaced from the Deleuzian source material in Whitehead's 'crannies of the future', and it arises out of the pataphysics of Berardi's own practice and his response to philosophical accelerationism (Berardi 2013). The conclusion suggests, then, that out of a comparative philosophical encounter, a third or virtual position which the thesis has constructed between these otherwise irreconcilable philosophical positions of Deleuze-Guattari – Baudrillard is a pataphysical one. The suggestion is that following this a redesigned objectile can be mobilised for speculative design out of a confluence of the Baudrillardian concept of the science of imaginary technical solutions and the Deleuzian concept of the technical object as one possessed of a pataphysical and modulatory power.

4.1.0 CLINAMEN REDUX

It is necessary to repeat, or to re-version, Warren Motte (1986) *Clinamen Redux*.³⁷⁵ Taking its pataphysical source and turning this toward Deleuzian concepts interrogating and expanding Motte's scholarship to provide a further redux, some 30 years after the first. This is structured in two parts, the first provides its redux of the clinamen, the Latin term introduced by Lucretius for his Epicurean poem, *De Rerum Natura* to describe the 'swerve' of an atom and adopted by Jarry as the name of Faustroll's painting machine as we have seen throughout Part Three. By way of extending *Redux86* this conclusion charts the veering mobility of the concept and addresses some 'errors of influence' in the earlier scholarship. The second part provides a closer engagement with some of the philosophical implications and addresses the terms of its own anxiety of influence. *Redux86* is an essay itself dependent on the influence of literary critic Harold Bloom's book the *Anxiety of Influence* (1973). The motive swerve of Bloom's theory, as Motte notes, is initiated in the essay entitled "*Clinamen or Poetic Misprision*" (1973:19-48). Every poet, suggests Bloom, is guilty of misprisions, a deliberate misreading of the models and worlds of their precursors. Amongst Bloom's misreading is the influence of Jarry's pataphysics or science of imaginary solutions. In *Anxiety of Influence* Bloom describes the clinamen as a 'willing error'.

The motivation of this conclusion is not a corrective desire to address pedantic issues of scholarly completeness. This is to say, that the scholarly swirling of interest around the clinamen performed by Motte is not the focus of criticism. What is at stake, in the lacunae which emerge under analysis, are further points of confluence with cybernetics and pataphysics, architecture and fiction, philosophy and technology. If these are omissions of *Redux 86*, they are to be accepted only as errors of influence. It is in swerving around and through these and adding further productive errors and another deliberate misreading, that an updated and revised *Clinamen Redux* will be constructed.

³⁷⁵ *Redux86*

There is though, a disciplinary inclination in both omissions and additions alike that are to be laid out as the conclusion unfolds. The inclination of this reconstruction of a pataphysical clinamen will be to add to Motte's and Bloom's literary sources a pataphysical dimension necessary to its attempted assimilation of the clinamen to error. An assimilation which needs to be understood prior to performing the assimilation of the objectile to this clinamen.

In revisiting and revising *Redux86*, and by going directly to some of Bloom's sources, this chapter argues that Bloom's self-professed influence by Jarry, by his own account and that of Motte, avoids an encounter of the notion of the clinamen outside of the narrowness of its literary influence. The chapter suggests that such an encounter is necessary to grasping, even fleetingly, the notion of clinamen as *error* as well as of influence, for the concept is wild and evasive. *Redux86* detours around the potential influence of a pataphysical *encounter* that might be mobilised through a fuller philosophical engagement. Furthermore, references from the milieu within which *Redux86* was published even within its own field of interest are also absent. To suggest, for example, the witting omission of Ihab Habib Hassan's *Dismemberment of Orpheus*, names only the most pertinent to the literary preoccupations of the willing error of Motte. Which is to say, the chapter traces vectors of clinamen, for its influence as a force; for the veering of its potentialities and careening movements charted from a pre-millennial pataphysics to a post-millennial speculative turn. If this were not a partial, intermittent, swerving and nonlinear history it would be too vortical, a maelstrom too treacherous to navigate.³⁷⁶ These vectors are close to Motte's Francophile source, the Ouvroir de Littérature Potentielle or OuLiPo, initially founded as a Branch of the Collège de 'Pataphysique, but combines these with the reception of a cybernetic clinamen in French epistemological and ontological circles and the transmission and reception of pataphysics and cybernetics in a British context. Before getting to these, in terms of the notion of clinamen and error,

³⁷⁶ an accessible cultural history of the clinamen is Greenblatt 2012.

this conclusion must also admit to its own necessary partiality, the errors of its own Lucretian clinamen within its own Leibnizian plenum: this thesis must admit to its own willing participation in its own errors of influence. These influences might be summarised as the discovery of pataphysics within a disciplinary inclination toward architectural as well as science fictions as discovered through its *Syzygies*; and a disposition, predilection or bias toward the notion of a pataphysics of error in artistic, technical and philosophical cultures.

4.1.1 Redux 86

At the centre of *Redux86* is the literary theory of Harold Bloom as developed in his essay “Clinamen or Poetic Misprision”(1972) and two of his books, *The Anxiety of Influence* (1973) and *A Map of Misreading* (1975). In these, Bloom developed the notion of the clinamen as ‘willing error’ acknowledging as his own source for this, the pataphysics of “Alfred Jarry and his disciples” (1973:42). The pataphysical influences on this conclusion, in as much as these will become evident in the willing error of its own deliberate misreading, are means by which to create its aesthetico-conceptual artefact. Its deliberate misreading that Deleuze's clinamen is Jarry's machine of the same name, is first means of flushing out Motte's errors of omission and inclusion as well as introducing some willing errors of this thesis's own creation.

It is unclear from which sources Bloom attaches the notions of error and influence to the clinamen. It is certainly not part of his 1971 definitional treatment. A scholar of the OuLiPo, Motte's source for the treatment of the clinamen as willing error is the later publication by George Perec who had inserted chance into the gaps of systems of constraint to generate *La Vie mode d'emploi* (1978) calling the chance component of the system ‘clinamen’ and characterising this ‘error’ as both felicitous and generative – a system of anticonstraint. Bloom would recognise the members of the Oulipo as a coterie of ‘Jarry's disciples’ and Motte might similarly be assigned, apprenticed to a

swerve, as is the writing of this thesis, to the vectors of a clinamen and those of disciples of pataphysical machines. Motte's essay is interested for what he observes as manifestations and expressions of clinamen across a sweeping arc of time.

In *Redux86*, Motte proceeds by laying out an argument in binary form, as had Karl Marx (1902) in *The Difference Between the Democritean and Epicurean Philosophy of Nature*. It will be productive to briefly rehearse this argument, both to chart a new vector out from Motte's *redux*, and to provide some update to his scholarly work; both for its gaps and elisions and to supplement this with ongoing interest in the clinamen. Motte, perhaps following Bloom's antipathy, avoids the encounter of the clinamen with political, philosophical or psychoanalytic modes of literary criticism.³⁷⁷

4.1.2 Atomism and Error

Redux86, introduces its discussion of Greek and Latin atomic theories with Democritus who had argued that atoms, prime and irreducible matter, describe an unwavering and unvaryingly linear fall, setting up a chain of causal relations determining everything. Epicurus refuted the linearity of this fall, arguing that, from time to time, atoms *swerve*. Some preservation of Epicurean ideas is contained within the poem *De Rerum Natura*, by Lucretius, the discovery of which Stephen Greenblatt (2011), in *The Swerve*, attributes the birth of the Renaissance. Where Greenblatt's is a tale of re-discovery, Motte's *Redux86*, some 25 years before Greenblatt's and 15 years after Bloom's first published account of the clinamen and his theory of poetic influence (1971), was more of an archaeological work. It exhumed traces of the clinamen as it swerved into the vectors of his own interest as an historian of the Oulipo. Whilst Motte clearly also writes after Michel Serres' extended meditation on the clinamen *The Birth of Physics* (1977), he chooses to use the translation of Copley, F.O (1977) *Lucretius, The Nature of Things*, New

³⁷⁷ Bloom's 'paradoxical' relation with deconstruction is widely acknowledged. See Bielik-Robson 2011.

York: Norton, rather than use the sources of Serres' or his translators. Motte uses his choice of quotation to illustrate the swerving principle, as did Bloom, but Bloom too uses a different though uncredited source. One might therefore consider the difference between these as being a kind of interpretive game of translation and error of the kind that Motte's coterie of Oulipean's and Bloom's disciples of pataphysics might willingly participate. This is suggested not so much to perform such a game but to set up the kind of writing machine, perhaps as the architectural three-dimensional grid of Perec's *Knights Tour*, which could be enjoyed, if one was so inclined.

In 19th and 20th century interpretations of Lucretius it is this clinamen or swerve that becomes the locus of free will. Lucretius is first to coin the term *clinamen atomorum*, 'swerve of the atoms'. The clinamen occurs unprompted and unmotivated. Which is to say, without cause, atoms change direction "at uncertain times / and at uncertain points" (34) or as Bloom tells it change occurs due to the slight swerve of the atoms "at no determinate time or place" (1973:44): Indeterminate, non-localisable, unmotivated and uncertain, and yet necessary. Lucretius's atomistic explanation of the universe, is that the movement of atoms accounts for all that is or could be, and depends upon the clinamen as its aleatory motive force. It followed that in the materialist vision mind would be composed of atoms:

the clinamen guarantees change in the universe and assures man that he is not merely the slave of immutable chains of causality, but rather lord of himself. (Motte:265)

Primarily, though not exclusively, Motte gives some address to Bloom's literary theory of poetic influence of writers associated with the Oulipo and, more summarily, on the philosophical account of Michel Serres. His account is most thorough in the first of these, but the representation of Serres' philosophical account in *Clinamen Redux* is understated. Furthermore, Motte suggests, and this is amongst his errors of influence, that "only three" writers

between the first century BC and the early 1970s have used the term clinamen outside of philosophical discourse limited to scholarship on Lucretius and epicureanism. Motte names these three as Coleridge, Jarry and Heisenberg. First, Coleridge, who in *Aids to Reflection* includes the 'lene clinamen'; second, he references Jarry, pivotal to Bloom and to Motte as a scholar of the Oulipo;³⁷⁸ third and more contentiously, he names Heisenberg. Whilst it can be readily admitted that the clinamen is frequently taken as a synonym for indeterminacy, Heisenberg nowhere uses the term Clinamen in direct relation to this. A likely source for this error of attribution is Shattuck and Watson Taylor's *Selected Works of Alfred Jarry* (1965) in which, they say in their introduction "*Today scientists and philosophers have stumbled once again over the concept of clinamen, newly attired as Heisenberg's indeterminacy principle*" (1965:19). Motte, though, does not mention Shattuck and Simon Watson Taylor and instead provides the following allusive quotation:³⁷⁹

In the 1920s, Werner Heisenberg elaborated the theory of quantum mechanics; his clinamen within this theory was the uncertainty principle: "It called for the substitution of a probability for a fixed orbit of a particle because simultaneous measurement of the position and momentum of a particle disturbs the system, so that there is always an uncertainty in the result. Motte 1986: 267

Furthermore, these philosophical sources aside, harder to account for are the absence of reference to de Quincey (1843:127). A surprising omission, given the significance of de Quincey to the fin-de-siecle avant garde, to Jarry and his disciples the pataphysicians of the cybernetic age. This influence extends

³⁷⁸ Motte's essay *Clinamen Redux* sits alongside his edited volume on the *Oulipo* 1984.

³⁷⁹ Motte gives as the source "*Stillman, Alfred Jarry, p. 37. See also the festschrift celebrating the fiftieth anniversary of the formulation of quantum mechanics, The Uncertainty Principle and the Foundation of Quantum Mechanics: A Fifty Years' Survey, ed. William C. Price and Seymour S. Chissick (New York: Wiley, 1976).*"

from an 'insensible clinamen' and a distinction that it is implicated in-between 'fancy' and imagination' and from which De Quincey's proto-psycho-geographic wanderings might be visualised through the motif of the swerve. Further still, Jarry's own pataphysical sources must surely be of some interest in a study of influence, at least insofar as these might be listed in the so-called equivalent books of Jarry's *Faustroll*. In the *Livres Pairs*' of Ben Fisher's scholarship (2000) these can be seen to contain yet further Lucretian influence. These influences, appropriately enough are pervasive, fugitive and elusive. It will suffice to include here those of Marcel Schwob's (1843) *The Death of Lucretius*, Cyrano de Bergerac's *Other Worlds* (1650), and Coleridge, an epicurean, but whose *lene clinamen* is caught up in romanticist notions of 'uncertainty' and where the Lucretian influence can straightforwardly be traced (Cardinale 2015). By the same token that Motte includes the 'clinamen' of Heisenberg's uncertainty principle, is Shattuck's suggestion that the clinamen is mobile in Lord Kelvin's Kinetic Theory of Matter (*Faustroll*, xviii) and of direct influence to Jarry's 'telepathic' and indeed, 'posthumous', communication with Thompson.

Motte began his *Redux* (1986) by offering the notion of free will as the principal and most compelling issue of Epicurean philosophy, arguing that it continued to animate the history of philosophy and this accords with Michel Serres sense of *De Rerum Natura* as a kind of quantum poetics (Albright 1997). Furthermore, Mallarmé's *Complete Works* are amongst Faustroll's equivalent texts, the constellations in *Prose and Verse* (*Faustroll*: 11), presumably for the 'divagations' of Mallarmé's wanderings and his dice throws on aesthetics and political economics.³⁸⁰ Just as Lucretius had equated alphabetic letters and atoms, Mallarmé's worlds are those in which '*chance is conquered word by word*'³⁸¹. At the turning of the Deleuzian twentieth

³⁸⁰ "everything is summed up in Aesthetics and Political Economy." Mallarmé 1945: 656.

³⁸¹ Whilst this source is *Le Mystère dans les Lettres Mallarmé* 1945: 1026, see Kern 2003:172-175 for a discussion of the spatial and temporal consequences; and Meillassoux (2012) for a contemporary argument and translation of Mallarmé's poem *Coup de Dés*.

century³⁸² to the twenty-first, and under the sign of Baudrillard's millennial *Pataphysics of the Year 2000*, the clinamen took a swerve from architecture and science fiction into cyberculture in the form of a ludology of devices, hardware and software subcultures.³⁸³ In place of the Lucretian clinamen of atoms as letters of an alphabet, there is the swerve as hardware glitch, the anomaly of error handling, and the clinamen as a materialism of code and abstract culture. In place of cybernetics as the science of the artificial, abstract culture has pataphysical computing as its science of imaginary solutions: "Pataphysics is the science of these beings and current or future machines (engins) with the Power of their use (discipulus)..."³⁸⁴

4.1.3 A 20th century Clinamen

Motte's literary survey is focused on what he terms the 'resurrection' of the clinamen to twentieth century thought, an entry point that is opened with the reintroduction of the term by Jarry in *Faustroll*. Motte notes his surprise "that the clinamen, stone-dead for two millennia, has been resurrected, in the last fifteen years" observing that, "it has been dusted off and deployed in discourse as dissimilar as those of Harold Bloom, Italo Calvino and Michel Serres" (1986:265). It is clear from this reference to Serres that Motte (and Bloom) do not entirely evade philosophical influence, as both depend to some extent on the philosophical account of the clinamen of *The Birth of Physics* and the semiotics of the pataphysician Italo Calvino. Contemporary to Redux⁸⁶, are the following notable absences: Derrida's *Mes Chances* (2007/1987:344); *White Mythologies* (Derrida 1974:21 n.16) which footnotes a reference by Andre Breton to Jarry's *Le Surmale*; Deleuze's *An unknown precursor to Heidegger: Alfred Jarry* (1997:(91-8); *How Jarry's Pataphysics*

³⁸² See Buchanan 1999, framed against Michel Foucault's suggestion that this [20th] century would become known as "Deleuzian" but was considered by Gilles Deleuze himself "meant to make people who like us laugh, and make everyone else livid."

³⁸³ see for an example of this the pataphysical hardware of <http://ludic-society.net/play/objects.php>

³⁸⁴ Jarry, 2001:202 "*La Pataphysique est la science de ces êtres et engins actuels ou futurs avec le Pouvoir de leur Usage (discipulus)...* [my translation]. For an account of pataphysical computing and hardware as machine/machinic see Hales (2015) and Hales (2016).

opened the way for phenomenology (2004a: 74-6); and his essay *Lucrece et Naturalisme*, in *Études philosophiques*.1961) and '*The Simulacrum and Ancient Philosophy*' (2009:291-320); the pataphysics of Baudrillard; and the translation of *De Rerum Natura* by Bergson (1884), a significant influence on Jarry. The philosophical account provided in this second Clinamen Redux is as partial as that of Redux 1986. It is informed by a fuller, though still incomplete philosophically inclined review, the following sources listed in date order of the clinamen's appearance, are to be considered as informing the trajectory of the present survey: Marx (1841); Bergson (1884); Lacan (1978); Althusser (2006); Negri (2005).

Without minimising the vast differences between the string of philosophers omitted by Motte and Bloom; without collectivising these starkly different philosophers simply for their interest in clinamen, this gap evidences the case that Bloom stands in opposition to the kinds of deconstructive and psychoanalytic literary mode for which Derrida and Lacan might stand and hence the swerving avoidance of a philosophical account in *Redux86*. Motte though does make a slip, observing Bloom's own noting a point of convergence between Derrida's theory and his own. This is, he says, 'crystallised' in the figure of the clinamen. In 'Mes Chances' and its discussion of the Greek and Latin atomic theories, Derrida questions the convention that associates falling, the motion from top to bottom, with the idea of chance:

[Why] the downward movement? When one speaks of chance or luck, why do the words and concepts impose in the first place this signification, this direction this sense, this downward movement regardless of whether we are dealing with a throw or a fall? Why does this sense and this direction have a privileged relation to the non-sense or insignificance which we frequently associate with chance (Derrida 2007:348)

It is unclear to whom or from where Motte attributes the source of the resurrection of the Clinamen, whilst agreeing with Bloom's suggestion that it was Jarry, this still does not account for the rehabilitation of the concept Motte dates as 15 years prior to *Redux86*. Bloom's '*Antithetical Criticism*'³⁸⁵ from 1971. A most likely candidate as this is a pre-publication version of what would become the introduction to *Anxiety of Influence*. In both publications Bloom adopts the figure of the Clinamen, as the Lucretian term for movement of atoms to allow for change, following the same Lucretian potential given to atoms and words as heterogeneous and deviant particles (McCaffrey 2001:21) as the basis of his theory of misprision (1971:44) defining this as 'inclination or bias, swerve away from, deviation. Bloom suggests the clinamen as a linking force in the poetic imagination and as a creative force of misinterpretation and influence. Interestingly, Bloom initially neglects to list the influence of Jarry on his use of the Clinamen. This omission of reference is rectified in *Anxiety of Influence*, wherein Bloom fully embraces his indebtedness to 'Jarry and his disciples' (Bloom 1973:42). Though these 'disciples' of Jarry's are unnamed by Bloom, this can only be a reference to members of the Collège de 'Pataphysique, first established in 1948. Bloom's indebtedness to Jarry is declared in the following manner:

The study of poetic influence is necessarily a branch of pataphysics, and gladly confesses its indebtedness to '[T]he Science, of Imaginary Solutions'. Bloom (1973: 42)

4.1.4 Apocalyptic visionaries – clinamen and simulacra in Blake and Jarry

Bloom's study can be immediately complexified by creating an encounter with the concepts which its own anxiety constructs. This encounter is startling if anachronistic and atemporal, and hence quite clinamenic, for Bloom puts into confluence two 'apocalyptic' visionaries: William Blake and Jarry. In doing

³⁸⁵ in *Diacritics* Vol. 1, No. 2 (Winter, 1971), pp. 39-46.

this, Bloom, perhaps unintentionally, follows the surrealist magazine *Minotaure* which had published an example of Jarry's woodcut illustration alongside those of Blake. Whilst Breton had included elements of Jarry's works in *Minotaure* from the first issue, the reference here is to Eluard (1937) and is the source of Bloom's pataphysical atemporality. Bloom collides Jarry's fin-de-siecle pataphysics with the edges of Blake's cartesian vortex or, there exists Bloom seems to suggest, a syzygy in the confluence of Jarry's pataphysical machinery and Blake's romanticist theory of vortices (Greenberg 1978). This is to say, that in Blake's manufactories and their "*impossible task of reducing the Minute Particulars, the Atoms of Vision that will not further divide*" (Bloom, 1973: 41) Bloom's anxieties lead, as well as to a clinamen, to an additional Epicurean conception - that of the simulacra.

For Bloom, the falling clinamen intersects with Blake's Urizon's veering fall, just as there had been such a swerving fall for Blake in Milton. Whilst Bloom's inclusion of Blake in his anxiety of influence is motivated by his own literary inclinations, Blake's use of the phrase, '*fortuitous concourse*' in *Albion* is an allusion to the atomistic chance collisions of the clinamen, and when combined with Albion's 'Spectral Chaos' tends to support the argument for an unlikely atomism at work in Blake's poetry.³⁸⁶ The word 'spectre', as an apparition of Blake's Spectral Chaos, is associated by Wayne Glausser with:

the Epicurean notion that creatures exhaled a sort of image of themselves 'composed of a very subtle matter (Reid, Essays on the Intellectual Powers of Man. 1765' where the word spectre is used for this image (Glausser 1991).

Blake's 'spectral', then, is the atomistic *simulacra*, or what Epicurus had termed *eidola*. However, this swerve is not the principal concern here, what is of interest is a convergence which tends to reinforce the philosophical

³⁸⁶ Glausser makes this case, citing the argument first proposed by W.H. Stevenson, ed., *The Poems of William Blake*. London 1971:636.

implications. For it is amongst his discussion in *Lucretius and Ancient Philosophy*³⁸⁷ that Deleuze introduces both simulacra and clinamen and what is of immediate relevance is that this convergence of clinamen and simulacra extends from the scholarship on Blake, to provide fresh purchase on Bloom's comparison of the 'apocalyptic visionaries' Blake and Jarry. The clinamen and simulacra of Blake's visionary writings, although Bloom seems not to notice this possibility, we collide with the 'emissions' of the painting machine Clinamen as it is described by the French visionary Jarry, as a machine of the apocalyptic pataphysics of Dr Faustroll.³⁸⁸

4.1.5 Faustroll's Clinamen and its Simulacra

outreaching its terrestrial confines by virtue of the mystical energy inherent in its form may be an early formulation of Jarry's later theory of a powerful form that naturally projected or expanded beyond its visible outline, like ripples emanating from the impact of a stone hitting water. This was not a new idea and can be related both to Aristotle's idea of 'sensible forms' that emanate from objects and imprint themselves on the waxlike receptacles of the senses and to the platonic doctrine of 'visual fire,' the eidola or simulacra, which are similarly understood as material emanations propagated by objects, subtle but substantial images, which forcibly impress themselves on the human senses. Fell 2005:40-44.

Amongst the related Jarryian scholarship are observations on the ekphrastic demonstrations of the images 'seeded' by Jarry's painting machine Clinamen in *Faustroll*. For example, the description of an image titled *Nebuchadnezzar Changed into a Beast*, for Jill Fell (2010:132) "takes the form of a vivid

³⁸⁷ I refer to the version of this developed by Deleuze and published as the appendix to the *Logic of Sense*. Deleuze's earliest published engagement with Lucretius is, Deleuze, Gilles. *Lucretius et le naturalisme. Les Études philosophiques*, Nouvelle Série, 16e Année, No. 1 (Janvier – Mars 1961), pp. 19-29.

³⁸⁸ Bloom's phrase is 'apocalyptic irony' (1973:389) which might be considered in relation to Breton's inclusion of Jarry in *Black Humor* (1997).

cinematic progression that seems to combine several engravings by William Blake.” This imagistic and proto-cinematic dimension of the promenade Vernet, also resonates with Iain Sinclair’s declaring Blake as first poet of British psychogeography and Peter Cook’s reference to an architectural and pataphysical promenade.³⁸⁹ There is a second machine though, one closer to the present concern with error, as time-anomaly, which demands philosophical explication. Dr. Faustroll, inventor of the painting machine Clinamen, is also author of a more technical paper: *How to Construct a Time-Machine* which as has been seen in the *Syzygies*, uses an error-prone or deliberate misreading of Bergson’s philosophy of time.

Following the clinamen to philosophical simulacra is to construct an encounter with the atomism and pataphysics of the machinic philosophy of Deleuze & Guattari. Which is to say, that between Jarry and Deleuze there exists a concern with the philosophical implications of the notion of error. This is not, or at least not straightforwardly, to desire or continue the anachronistically post-Freudian line of influence undertaken by Motte and Bloom, but to take a swerve with the clinamen, to recall instead an anti-oedipal pataphysics, as if this had already been the intention of Gilles Deleuze with Felix Guattari. There is an oft rehearsed difference between Baudrillard’s and Deleuze’s understanding of simulacra and the implication of the clinamen and the orthodoxies of the postmodern simulacrum (Massumi 1987). Less well observed is that this difference also entails an interest in Jarry’s pataphysical machines. Before tackling this— it is necessary to take up a further cultural swerve to account for a continuity of the cybernetic errors of influence already at work in this thesis.

³⁸⁹ see Tortajada 2010 for a cinematic understanding of Jarry’s painting machine, the suggestion that the painting machine is in fact a proto-cinematic poetry is developed further in (Hales 2015) parts of which are reworked for this thesis.

4.1.6 The Cybernetic Clinamen of Anti-Chance

Although to make this observation is to begin to make a willing error of influence, in 1948 the same year that the Collège de 'Pataphysique is established, Norbert Wiener's *Cybernetics* is also first published. Wiener developed his own sense of anxiety or delirium over the influence his science of cybernetics would exercise: "I became aware of the possibility that almost any experience may act as a temporary symbol for a mathematical situation which has not yet been organised and cleared up".³⁹⁰ Wiener's anxieties were over the cleaning up of errors, or the failure to organise the constraints of cybernetic control adequately enough to avoid any exceeding of given margins of error. More specifically, Wiener's anxieties were over those anomalies triggered by a conceptual dissolution of boundaries between the animate and inanimate, between signal and noise for which, the proto-cybernetic machines of Jarry are instructive as instruments of exception and indeterminacy and the technographic potentialities of the science of imaginary solutions.

Whilst Wiener's anxiety of error and the pataphysical willing error of the anxiety of influence might otherwise be quite distinct, and any attempt to bring these together dismissed as itself erroneous or delusional, a pataphysical syzygy, in fact, exists. This is to be found in a *Clinamen of Anti-Chance* used by Pierre de Latil's book *La Pensée Artificielle 1953* (The Thinking Machine). In Latil's book, one central to the reception of cybernetics in France in the wake of Wiener's ideas, Latil deploys the "important concept of the clinamen" as central to the chapter *anti-chance*. As we have already seen it is likely that through Raymond Queneau at Gallimard Press that de Latil encountered both pataphysical concepts and pataphysicians³⁹¹ and it is at least likely that through

³⁹⁰ Norbert Wiener, quoted in Heims 1980:147-148.

³⁹¹ see for example: Latil, Pierre de: L'interview de la semaine. Raymond Queneau encyclopédiste: des exercices de style au style des exercices. Ds: Demain, Paris, 8 mars 1956. cited, as entry 552, in Hillen (1981).

this encounter Latil implicates in cybernetics the pataphysical use of the Lucretian clinamen. This clinamen of de Latil is only 'Lucretian' in the pataphysical way that is true of Bloom. This is to say, that it is resuscitated first by Jarry and after whom all clinamen are first pataphysical by the very same token that all machines are pataphysical after Jarry for Michel Carrouges. All instances of the clinamen after the Collège de Pataphysique share in this same debt to Jarry's pataphysical machine 'Clinamen' and as described in *Exploits & Opinions of Dr Faustroll, Pataphysician* for concept and machine are one and the same.

4.1.7 The Clinamen of Anti-Chance and Anti-Constraint (the anti-computer)

If Latil's *Clinamen of Anti-Chance* (1956:178) is first pataphysical then it squares well with Perec's Clinamen of Anti-Constraint, for they are similarly concerned with the functioning of errors. The assimilation of the clinamen to error stems from Perec destruction of systems of constraint, and at root is a response to Klee's aphorism: "Le génie, c'est l'erreur dans le système" (Genius is the error in the system). Given our cybernetic interest, it is tempting to locate Jarry's painting machine *Clinamen* within a taxonomy of actual and imagined machines which precede it. This can be achieved considering its placement by Jarry as if within a fictional world containing the actual *Palace of Machines* of the 1889 Paris Exposition. Doing so also hypothesises Clinamen as proto-cybernetic and speculates that the de-occultation of pataphysics at the fin-de-millennium unleashes Clinamen's eccentric computational imaginaries, in a convergence of logical and pataphysical machines.

Faustroll, was written in 1898 but was not published until 1911 and so might properly be read in terms of the reception of the protocinematic devices of the 1889 exposition and the impact of L' Exposition de Paris 1900. Such convergences as these have tended to implicate pataphysics with late 20th century computational and media arts in ways that are described in

speculative (Drucker 2009), occult (Cramer 2005) as well as straightforwardly pataphysical terms (Hugill 2014) and which also collapse in uchronies of long-nineteenth century and renaissance machine imaginaries with those of post-cybernetic cultures. Which is to say, that *Faustroll* is a possible world that involves an imaginary machine or invention (Clinamen) with some basis in given historical referents (Palace of Machines). Faustroll's voyages are a uchronia in which the painting machine Clinamen and other devices in his novels and plays, as a counterfactual and proto-cybernetic/cinematic technical objects, function as what Suvin termed the *novum objects* of science fiction.

In the chapter entitled 'Clinamen' in *Exploits and Opinions of Dr Faustroll Pataphysician*, Jarry describes his machine, named simply *Clinamen*, as follows:

Meanwhile, after there was no one left in the world, the Painting Machine, animated inside by a system of weightless springs, revolved in azimuth in the iron hall of the Palace of Machines, the only monument standing in a deserted and razed Paris; like a spinning top, it dashed itself against the pillars, swayed and veered in infinitely varied directions, and followed its own whim in blowing onto the walls' canvas the succession of primary colors ranged according to the tubes of its stomach, like a pousse-l'amour in a bar, the lighter colors nearest to the surface. In the sealed palace which alone ruffled this dead smoothness, this modern deluge of the universal Seine, the unforeseen beast Clinamen ejaculated onto the walls of its universe.³⁹²

Faustroll's Clinamen, in the time of the *pataphysics of the year 2000*, seems to pre-figure simulations and virtual realities of cyberspace in Jarry's ekphrastic description of its painterly spaces which it renders by projecting simulacra, or to ejaculate its images, onto the walls of the Palace of Machines. Clinamen seems very much to be already involved in a uchronic

³⁹² (Jarry 1996: 88).

construction of protocybernetic machines³⁹³ in Jarry's ekphrastic method, and his prose rendering of these as if in some pataphysical version of Diderot's Promenade Vernet.³⁹⁴ The fascination with this prototypical pataphysical machine is suggested for just this potential lineage. It lies also in its convergence with another, which might begin with the magic lantern and a protocinema or cinepoetry (Wall-Romana 2015), and Edison had exhibited emerging cinematographic devices at the exposition of 1889 as well as at the earlier 1855 and the reception of Méliès films at the exposition in 1900.³⁹⁵ In terms of a fin-de-siècle milieu of optical and other pre-cinematic machines, an Analytical Engine was exhibited at the Paris Exposition on 1855, but not in the Palace of Machines, which is the context described by Jarry as the setting for the display of Faustroll's invention, as this was not erected until 1889.³⁹⁶ Edison's cinematic machines though were in fact proliferating and had already developed their own promiscuous form of life, as the bibliographic records testify.³⁹⁷

Jarry renders *Clinamen* as a painting machine which might be taken to be a symbolist apparatus for cinema's projection machines (Tortajada 2010: 97–114). Tortajada suggests that Jarry depicts a mechanical ecstasy in which *Clinamen* defamiliarises the then emerging physical means of projection. Reading *Clinamen*, as an imaginary symbolist painting machine, deterritorialises *fin-de-siècle* engineering practices in parallels between fictional paintings which Jarry attributes to his machine and Fell attributes to Blake and Jarry's ekphrasis. In the 'deluge of the universal Seine' are painted

³⁹³ David Tomas defines *uchronie* 'as a philosophical term that refers to the historical reconstruction of fictive events on the basis of given historical referents' in: "On the Imagination's Horizon Line: *Uchronic Histories, Protocybernetic Contact, and Charles Babbage's Calculating Engines*" in Clarke and Henderson (2002).

³⁹⁴ It is worth recalling at this point the association of Coates and Tschumi to the 'pataphysical promenade' in Cook (1983).

³⁹⁵ as well as the reception of Méliès '*A Trip to the Moon*' (1902) see for e.g. Solomon 2011.

³⁹⁶ a similarly named gallery was constructed for the 1878 fair. The 1889 structure was re-used again in 1900.

³⁹⁷ See for example Toulet (1989a) and (1989b: 179–209).

Jarry's symbolist expressions of the imaginary science of a matter-flow, anticipating the numerical images³⁹⁸ (objectiles) of a pataphysical realm.

The electronic image, that is, the tele and video image, the numerical image coming into being [...] They are the object of a perpetual reorganization, in which a new image can arise from any point whatever of the preceding image. The organization of space here loses its privileged directions, and first of all the privilege of the vertical which the position of the screen still displays, in favor of an omni-directional space which constantly varies its angles and co-ordinates, to exchange the vertical and the horizontal. And the screen itself, even if it keeps a vertical position by convention, no longer seems to refer to the human posture, like a window or a painting, but rather constitutes a table of information, an opaque surface on which are inscribed 'data,' [...]
Deleuze Cinema 2: 265.

What is suggested in this observation of an anticipatory cinematic pataphysics of Jarry's Clinamen and its seeding of images, is that in the passage above, Deleuze repeats the definition of the objectile as a tabular grid - one which can be said to embed what Deleuze terms 'crystalline seeds' in a non-hylomorphic population of a grid "a table of information, an opaque surface on which are inscribed 'data,'" "*the surface stops being a window on the world and now becomes an opaque grid of information on which the ciphered line is written. The painting-window is replaced by tabulation, the grid on which lines, numbers, and changing characters are inscribed (the objectile).*" 1993:27.

³⁹⁸ For a more divergent discussion of the Epicurean and Deleuzian sense of seeding see Goldberg (2009).

4.1.8 Logical and Pataphysical Machines

Leibniz's calculating imagination is certainly an influence on Jarry and on Wiener for whom Leibniz is 'patron saint of cybernetics'. The taxonomy of devices and 'enjins' that might be said to accelerate and proliferate after Leibniz, trace also to Lull and to the imaginary machines and landscapes of memory palaces; to Pascal and calculation machines. In histories of proto-computing these are further extended from Leibniz forwards to Babbage and to difference and analytical engines. A trace of this influence, from the invention of Jevon's 'Logic Piano' a 19th century proto-computer to speculative finance, might be found in Jarry's review, for *La Revue Blanche* (January 1901) of Léon Walras's *Elements d'économie politique pure* (1874). This introduces a comparison with William Stanley Jevons', *Theory of Political Economy* (1871) which Parshall (Faustroll 2006:165n.23.) suggests might be productively read in parallel with Jarry's notion of 'Phynance'. Jarry's political economic system of Phynance, a neologistic coupling of physics and finance, is an imaginary science of economics and invention and as such might be productively read 'in parallel' with the accelerationist political economics of Land's techonomic theories. However, if *Clinamen* were a proto-computer it would be of a calculating imagination informed by Jarry's misattribution to Leibniz of an hallucinatory image of perception. Hence this the present thesis's consideration, its deliberate misreading, taken up in the mobilisation of the objectile (Hales 2015; Hales 2016a) as *Clinamen*.

4.2.0 PHILOSOPHICAL IMPLICATIONS

Gaps borne out of Motte's own anxiety of influence have thus far provided the basis for this swerving insistence in seeking to give address to the philosophical fissures of Redux86. In what remains of this concluding discussion of *Clinamen* its final swerving move will be to go directly to those fissures opened for what these gaps might afford, providing an encounter with Deleuze's philosophical writing on the notion of error, both alone and with the psychoanalyst Felix Guattari; and for the intersection of the clinamen with the philosophical thought of some of Deleuze's known influences on this notion of error.

So far we have been motivated to perform a further redux of the clinamen whilst at the same time seeking to provide a misreading in Deleuzian terms. The inclination of its deviation from Motte and from Bloom is in veering under the influence of a willing error or misreading of the clinamen toward a Deleuzian account of the pataphysical. As we have begun to chart in Syzygies this entails an engagement with Gilbert Simondon's anti-atomist allagmatics, his influence under the cold-war technology of cybernetics and the pataphysical mobilities of the clinamen.

Going further then, the atomist clinamen and science of cybernetics align in the allagmatics, of Gilbert Simondon (2006), what he calls a theory of change. By 1958 Gilbert Simondon was writing already on atomism and hylomorphism, on the clinamen, matter and form in his thermodynamic *mutation* of cybernetics in the terms necessary to his philosophy of individuation. Whilst Simondon does not refer to this directly, the general dependency on Pierre de Latil in the reception of cybernetics in France of the 1950s suggests that Simondon would have been aware of the cybernetic clinamen that Latil includes in chapter VIII 'Anti-Chance' of his book *La Pensee Artificielle* (1953) discussed above, likely making sense of

Simondon's usage of the term clinamen as introduced at the start of this thesis:

Anything that can serve as the basis for a relation is already of the same mode of being as the individual, whether it be an atom, an external and indivisible particle, prima materia or form. An atom can enter into relation with other atoms via the clinamen. It constitutes thereby an individual, viable or not, through the infinite void and the becoming without end. Matter can receive a form, and within this form-matter relation lies the ontogenesis. (Simondon 2009b: 4).

As the scholarship on Lucretius and Epicureanism, and the application of analogies of atomistic ideas to a variety of fields has developed,³⁹⁹ so too has interest in the clinamen as an aspect of political philosophical thought on temporality.⁴⁰⁰ Gilles Deleuze, a contemporary of Simondon, had published his essay on Lucretian atomism as early as '*Lucrece et le naturalisme*' (1961) on the clinamen and Jarry's pataphysics and his time-machine by 1966 '*An unrecognized precursor to Heidegger: Alfred Jarry*' (Deleuze 1998:91-98); and by 1993 had incorporated Simondon's concept of individuation into his philosophy of difference and the fold. Interestingly though, Deleuze does not discuss Lucretius in relation to his Bergsonism, yet influence of Bergson's philosophy of time and duration on Deleuze is oft remarked, less so is the likely influence of Bergson on Jarry which is accompanied by a temporal anomaly in Jarry's embedding of Bergsonian duration - and an *imaginary present* - in his description of the time-machine and thus it is a pataphysical and estranged sense of Bergson's duration, it is suggested by this thesis had informed Deleuze's philosophy of time and consciousness.

³⁹⁹ In the Deleuzian context of this thesis see Johnson (2018).

⁴⁰⁰ as well as a philo-fictional reading of the Clinamen by Laruelle in Spencer 2018:1–21.

4.2.1 Bergson and Jarry's Perceptual Error

Black and ironic humour and an estrangement⁴⁰¹ of the senses are central to Jarry's method. Jarry's questioning of the universe supplemental to this one, frequently takes the form of a perceptual error, an hallucination.⁴⁰² Such an error might also be found within the time-machine of Dr Faustroll where there are errors of superimposition of 'different levels of reality' and Bergson's 'pure' perception, which places the mind amidst the world and seeks therefore to question its multiple sources of perceptual error as sources of its truth and in which there is not a suspension of disbelief, but a belief in the "*mutability of reality*" (Bergson 2002:362). We can construct a relation of relations, a syzygy, between D&R's incorporation of Hans Vaihinger's philosophy as-if and this Bergsonian sense of fabulation. Furthermore, in his *Superliminal Note* Roger Shattuck (1960) constructs a relation between the as-if philosophy of Vaihinger and the pataphysics of Jarry:

Pataphysics relates each thing and each event not to any generality (a mere plastering over of exceptions) but to a singularity that makes it an exception.

... In the realm of the particular, every event arises from an infinite number of causes ... Students of philosophy may remember the German Hans Vaihinger with his philosophy of als ob [as if].

Ponderously yet persistently he declared that we construct our own system of thought and value, and then live 'as if' reality conformed to it.

Pivotal to Vaihinger's affirmation, in The Philosophy of 'as if' that 'life and science are not possible without imaginary or false conceptions, is Nietzsche's sense of error. Nietzsche, Christian Bök suggests, describes a pataphysical definition of error, that the idea of error would be the truth of the

⁴⁰¹ see the entry on alienation in Stableford (2006:17).

⁴⁰² His account of this in the 1897 novel *Days and Nights* (1989), itself an error of misattribution (to Leibniz) and likely a deliberate error.

most imaginary of solutions.⁴⁰³ There is also something quite pataphysical about an unanswered Nietzschean question "In a world of becoming in which everything is conditional, the assumption of the unconditional, of substance, of being, of a thing, etc., can only be error. But how is error possible?" (Nietzsche 2003 35 [51]). For Nietzsche, this is possible because error is also a kind of Truth: "Truth is the kind of error without which a particular kind of living creature could not live." *ibid* 34[253]. Thinking itself then, "is of the same rank as 'matter', 'thing', 'substance', 'individual', 'purpose', 'number'; in other words to be only a regulative fiction with the help of which a kind of constancy and thus 'knowability' is inserted into, invented into, a world of becoming." (Nietzsche 2003, 35, Section II).

4.2.2 Lucretius and Ancient Philosophy: Clinamen, Simulacra and Deleuze

Deleuze, having already completed his re-readings of Bergson, Nietzsche and Jarry before *Difference & Repetition*, defines error in terms of truth⁴⁰⁴ and in terms of a model of recognition. Error, Deleuze tells us, is a case of false recognition. Deleuze and Guattari, in *Example 4* of their last book together, 'What is Philosophy?' (1994:51-57), develop this same line of influence for error and misrecognition. How is it, they ask, that Descartes makes error a feature of his system or plane of thought? They then trace the vectors of such an error as it probes and veers from one plane to another as has also been the course of this thesis. Deleuze-Guattari answer their question describing a wandering line of error from Socrates "for whom the person who is wicked (in fact) is someone who is by right mistaken" (D&G 1994:52), on a careening path toward Kant, from whom Nietzsche had adopted the idea of a regulative fiction, and that life and science are not possible without imaginary or false

⁴⁰³ "The Idea of Truth is the most imaginary of solutions." Bok 2002:18.

⁴⁰⁴ The Deleuzian notion of truth might be followed out of this thesis into the related discourse on art and fictional worlds. For example, the essays for the exhibition catalogue of *More Real: Art in the Age of Truthiness*. (Armstrong 2012).

conceptions.⁴⁰⁵ In its nonlinear tracing of this lineage of an anxious line of influence, between the plane of Plato and Descartes “A major change occurs” they say, “when ignorance and superstition replace error and prejudice in expressing what by right is the negative in thought.” D&G 1994:53.

4.2.3 Deleuze & Clinamen as Conatus

There is no diagram that does not also include, besides the points it connects up, certain relatively free or unbounded points, points of creativity, change and resistance, and it is perhaps with these that we ought to begin in order to understand the whole picture (Deleuze, Foucault 1999b: 37).

Nowhere does Deleuze directly suggest a pataphysical reading of Lucretius, his clinamen in the appendix to the *Logic of Sense* being mapped not to Jarry's machine, but to Spinoza's conatus, yet it is this which facilitates our own misreading. Jarry's pataphysical attribution to Leibniz of a description of hallucination as the basis of perception might otherwise define pataphysics itself: "*as the symbolic attribution of the properties of objects, described by their virtuality, to their lineaments*" (*Faustroll:22*). For a Deleuzian pataphysical empiricism we must introduce, rather than the properties of objects as hallucinatory, a relation of the potentialities of virtuality to the lineaments of actual objects. The virtual potentialities of objects as real, yet not actual, and as might be articulated in the actualisation of new, errant, and wayward potentials in which clinamen, error, is a "*kind of conatus*". Deleuze makes this remark in the *Simulacrum and Ancient Philosophy* the appendix to the *Logic of Sense*: "*The clinamen is the original determination of the direction of the movement of the atom. It is a kind of conatus – a differential of matter and, by the same token, a differential of thought...*" (Deleuze 2009:306). Furthermore, Deleuze develops, in *Difference & Repetition* and with Guattari

⁴⁰⁵ Vaihinger, *Philosophy as-if* 2009[1925]:341, and despite the disavowal of Kant by Nietzsche.

in *What is Philosophy*, an image of Enlightenment thought as one in which error marks and moves away from the notion of accurately picturing the world and the precision of scientific knowledge. Such thought, Deleuze maintains, “has an affinity with the true; it formally possesses the true and materially wants the true.” (2004:166)

Deviant, wandering, or veering, these and various definitions of clinamen as error, under the enlightenment image of thought, are its ‘misadventures’. Error functions in such thought as a delimiting concept and not as a creative one. It is from this image that science develops its sense of margins of error, of parameters and of statistical errors. Bloom’s definition of the clinamen as his trope of willing error or misprision, “a turn from literal meaning in which a word or phrase is used in an improper sense wandering from its rightful place” (Bloom 1975:93) squares poorly with either Deleuze’s sense of error as the misadventure of thought or Deleuze’s reading of Lucretius with Bergson, Spinoza and Simondon, in which the clinamen is creative. Although Deleuze shares with Bloom/Motte a familiarity with Serres’s *The Birth of Physics*, the Deleuzian conatus and Bloom’s clinamen, outside of the pataphysical sense, are not equivalent. There is though, in Deleuze’s method something deliberate in his misreading that is reminiscent of Bloom’s. Deleuze’s misreading is, like that of his reading of Spinoza, an understanding of conatus that is an already revisionary and mutated understanding of the Lucretian clinamen. In a similar manner, Deleuze’s own combination of Lucretius and Spinoza is also open to wandering under the influence of its own swerves. Indeed, Deleuze modifies and combines the clinamen of Simondon, Bergson, Marx, and Serres, none of which are the same as Jarry’s. However, all are similarly to be considered inversions of the Lucretian one, if as Motte suggested, the Clinamen of the 20th Century depends upon Jarry. Furthermore, as all clinamen are pataphysical and Jarry’s misreading of Bergson’s *durée* is implicated in Deleuze’s philosophy of time, perhaps like Jarry, and Duchamp, Deleuze “found something deliciously subversive” about

its alignment with new topologies of chance.⁴⁰⁶ If so, then in his conjuring of a Heidegger-Ubu persona Deleuze suggests that the potentialities of a clinamen, in both the technical object and pataphysical machinery, arises in the modulating force of error or objectile.

The overall sense of the pataphysical error, then, is one which is productive of the new. It is an error fecund like the clinamen, a seed intrinsic to a plane, and yet capable of constructing a new one; supervening as well as depending upon its relation to the errors of other planes. The lineage of error Deleuze and Guattari trace in a nonlinear fashion to Kant, who had similarly taken up the notion of error to transform it, to show *“thought [as] threatened less by error than by inevitable illusions that come from within reason.”* (D&G 1994:52). Whereas a concept cannot be isolated from the plane on which it is instantiated, it will nonetheless suffer a mutation as it veers at infinite speed and as it collides between strata. As a concept shifts from one plane to another, constantly leading thought to error, the clinamen shifts and collides as if to create new instabilities and potentialities out of the misdirection of thought. such a clinamen is akin to what Barry Curtis (2002) described as the 'necessary irritant' of a visionary mode of speculative design's actualisation of counterfactualities and virtualities. These are solutions to imaginary problems that are always immanently there. Solutions which might interrupt those of the science of the artificial in the unpredictability of a swerve or clinamen in the combinatorial fragments of possible worlds. Pataphysical fictions, as the architectural and science fictional objects of speculative design, seek to actualise in the modulation of exceptions by technographic prototypes, as pragmatic as the techniques of the Burroughs or Simondon experiment.⁴⁰⁷

⁴⁰⁶ It would be anachronistic as Salazar-Sutil (2013) warns, to suggest a topological inclination for Jarry as the term did not come into use until after his death and I use the term here in connection to Deleuze's development of a pataphysical line of interest, that is also Jarry's in Riemann's manifold geometries and for what this affords to the topological implications of the objectile.

⁴⁰⁷ To these relations of speculative and pragmatic experimenters we should append David Greene's collaborative work with John Frazer and LAWUN #19's sense of a necessary irritant of a convergence with the numerical image in which the objectility of LAWUN's artefacts might

4.3.0 OBJECTILE REDUX

The new status of the object no longer refers its condition to a spatial mold – in other words, to a relation of form-matter – but to a temporary modulation that implies as much the beginnings of a continuous variation of matter as a continuous development of form. (Deleuze 1993: 19)

Deleuze's speculation provides many concepts, and variations on these, as alternatives to hylomorphism. That is, alternatives to the model of the genesis of form as an imposition upon matter from the outside. One concept specifically geared to speculation on the technological object yet to be mobilised fully for design research, which is to say of the technical object as a becoming or individuating difference, is that of the 'objectile' [A]n object which *“no longer refers its condition to a spatial mold – or in other words, to a relation of form-matter – but to a temporary modulation”*, that is, to a matter-flow. This concept, objectile, is developed in parallel with Deleuze by the architect and furniture designer Bernard Cache. As a concept 'objectile' perhaps suffered from an initial over-use within architecture and its relatively privileged discourse on the computational, the numerical, and the parametric production of form has disappeared even from that discourse.⁴⁰⁸ It is this sense of the numerical that makes the objectile most readily align with the science of the artificial and with what de Latil termed the 'artificial realm' of cybernetics (1956:25-43). An alignment which has led to the objectile becoming lodged on this stratum of the architectural, and that a once mobile concept is in stasis to the extent that Cache suggested some thirty years after his first deployment of the concept that what is now required is the pursuit of

be actualised in collaboration with the Architectural Association's Design Research Laboratory.

⁴⁰⁸ For the disappearance of the influence of the objectile as a neologism in architectural computation, note its absence in Parisi's *Contagious Architecture* (2013); and from Schumacher's (2011) parametricism.

the objectile by philosophical rather than architectural means.⁴⁰⁹ Instead of this, what is required is a more speculative objectile, one ontogenetic and technographic in its assimilation to a clinamen, differentially geared, where tools and gears, the technical mentalities of speculative objects, actualise in the science of imaginary solutions.

Cache's Objectile has effectively ossified in forms of disciplinary fabrication through the simplistic application in design of techniques extracted from Cache's texts, starting with *Earth Moves: The Furnishing of Territories* (1995). Such stagnation has the unfortunate consequence of also rendering the objectile as determinate rather than being an expression of the modulatory power of the indeterminate. However, as an expression of design's capacity for modulation, for this is the nature of its force, the concept *objectile* also enables consideration of the fictionality or what it is for a technographic prototype to be a speculative object. This is to say, to reconsider the functioning fictions of design in the ontogenesis of technological objects (objectiles) and the related production of subjectivities (subjectiles).

The objectile enables design, and more specifically designing in the form this manifests in Cache's practice, as well as that of speculative design, to be practised ontogenically. That is, it is a concept for engaging with and driving the becomings of technological objects and the fabulation of a people to come. This is to swerve around, but not to diminish, its importance as a concept for subject-object relations and to emphasise the objectile as a concept for design and the technographic prototype as a product of the numerical image. This is to say, as signaletic material (the form of diegetic and technographic prototypes). Neither should it be ignored in our swerve that the concept of the objectile entails a changing status of the subject as 'superject', as Deleuze suggests following Whitehead (Deleuze 1999:20). Indeed, to return to a quotation used earlier in the thesis, Cache subsequently

⁴⁰⁹ to see Bernard Cache's views change about this concept see Frichot and Loo 2013:102.

notes of subject-object relations that the difference between the concept 'objectile' and the concept 'subjectile' is very subtle:

subjectile in French means the layer as basis for applying paint, so when one primes the wall before painting it means preparing the subjectile. It is a technical term, mostly used in industrial painting. However, the subjectile also refers to a redefinition of the subject. If one would consider the subject as a surface, then one precisely has the relationship between the specific technical meaning and the philosophical meaning ... The terms subjectile and objectile are used to distinguish between open surfaces and closed surfaces. There is a strong difference between them since subjectile refers to surface and objectile to volume. (Cache in Balkema and Slager 1999: 27)

In this same interview Cache, intriguingly, uses the term 'computer-related design' which otherwise has been limited to the framing of the research department D&R were a part of in the mid 1990s, at the RCA under the direction of interaction designer Gillian Crampton-Smith. There is perhaps nothing of significance to this other than a suggestive lineage between physical computing and topological computing.⁴¹⁰ However, for the purposes of this research, objectiles have been considered simply as a way of conceiving the 'technological objects' of speculative design and computer-related design, as each involving a Deleuzian sense of the numerical and signaletic in post-digital technographies. As technological objects, plainly stated, objectiles relate to a set of things made up of software objects and hardware objects and entail the design of these numerical images as soft- and hard-wares. This is also amongst Cache's illustrations of the objectile as a 'moving object' which involves us, to paraphrase Cache, in creating real world machines that enable us to use current state technologies to generate machine programs which enable our use of abstract machines to produce

⁴¹⁰ A lineage I explore in Hales (2015), though not in relation to Dunne & Raby's speculative design or the RCA's computer related design department.

mathematically machined shapes of abstract spaces and unthinkable speeds.⁴¹¹ However unthinkable, it is the numerical, geometric and mathematical optics of such abstract machines, which prevent the abstract exceeding description. Despite their mutations of cognition they are, as Bogost maintains, never going to be weird enough (2012). Speculative design it has been argued by this thesis similarly uses abstract machines to produce mathematically rendered prototypes against the background to industrial design but in which the subjectile and subject are similarly redefined. The question Cache initially asked in *Earth Moves*, whilst creating continuities between media-based processes of designing and the fabrication of his furnishings for territories, was posed by simply asking: 'what is an object?' (1995: 89).⁴¹² Cache suggests that objects are already a 'set of things' and proposes that through its selection in frames, any object has the status of simple image. That is, he says, design with its 'different skills' works with such images as a 'cinema of things' (1995: 29).

Speculative practices – and Cache's practice as a software designer deserves this title as much as do D&R's speculative objects suggest the moniker objectile – tend to run counter to normative and normalising design methods, those methods of standardising procedures that end up prototyping users, operators and designers as much as their devices. An object, then, is a set of things 'that industry conceives and fabricates and that we buy because they create use effects' (1995: 89) objectiles, 'moving objects', move us. If coupled with the speculative designing of paranoiac electrical machines, we find the kind of exceptions to normative laws governing use that Cache categorises under the heading 'function' and Dunne under the sign of the parafunctional. It is perhaps to such uses that Massumi refers when he describes the 'norm', somewhat pataphysically, as "the proliferation of the inessential that comes when consumer choice *interferes* with design" (2009: 36–45 [my emphasis]).

⁴¹¹ This is a paraphrasing of Cache in Balkema & Slager 1999: 27 coupled with a clinamen as alea.

⁴¹² a question developed under a more explicitly Simondonian influence is Yuk Hui asking: what is a digital object? Hui, 380-395 (2012); and (2016).

"The purpose of the norm", Cache writes, "*is not to stabilize our movements; on the contrary, it is to amplify the fluctuations or aberrations in our behaviour. Changes are the mode of the norm*" (1995: 96). Cache's concept of consumption aligns with Dunne's notion of the consumer suspending ethical beliefs in useful fictions so that they may live in extreme times and in a weird world (2013:38) and of the need to move design upstream, beyond technology, beyond product (2013:49) where science moves out of the laboratory and into the irrationality of the free market (2013:60). This accelerationist tendency is aligned with that of Deleuze and Guattari – a desiring-production – a consumption which constitutes a field of forces where all production is recorded and across which all production is distributed by what appear to be 'miraculating machines':

Conforming to the meaning of the word 'process', recording falls back on (se rabat sur) production, but the production of recording itself is produced by the production of production. Similarly, recording is followed by consumption, but the production of consumption is produced in and through the production of recording (Deleuze and Guattari 1984: 18).

Cache enlists change as the condition of the norm for his reworking of this recording-production. He then offers a further five definitional headings for the objectile along with 'consumption'. These are production, representation, modelling, function, and marketing (Cache 1995: 96–8). For marketing, which he links with forms of speculation as an uncertainty, he enlists the sense of an '*alea*' (1995: 98), or chance. Cache relates the predictable to this *alea*: from a non-human uncertainty to a choice between the *alea* of the open work of controlled chance (Pierre Boulez's work for example), an *aleatoric* indeterminacy (in the work of John Cage), or an aleatoricist randomness as the returned value of a variable number function. Nonetheless, even within these calculable limits an *alea* is apparently sufficient for Cache to enlist a 'state of fluctuation' giving rise to 'an ordinary object that may well entertain

singular relations with the user' (1995: 98). Alternatively, it is Deleuze's 'aleatory point', or the paradoxical element, to which Cache refers as a principle for design: 'the aleatory point which circulates throughout singularities' (Deleuze 2004: 201). For Deleuze it is the aleatory point that draws chaos into a plane of consistency, a virtual that is no longer chaotic, and in which designing is the event of the actualisation itself; an aleatory point tracing an unfurling clinamen as a line of Aion, a pure becoming of 'proximate past and imminent future' (Deleuze 2004:74). Deleuze contrasts Chronos, the time of experience, with Aion, the paradoxical time of the combination of all pasts and futures. It is through such paradoxes as that of Aion, and that of nonsense and sense being co-present, through Aion's precursory and premonitory anachronism, in movements of pasts and futures, that Deleuze gives to philosophy pataphysical concepts. Take for example Jarry's neologism 'eternity' (Jarry 1996: 100), which might, after Deleuze's incorporation of Jarry as conceptual personae (D&G 1994: 62-8), become the seething, azathothic and chaotic energy from which the cosmos emerges.

In his passage on the objectile in *The Fold*, Deleuze describes Cache's computational processes as a 'demonstration' of "[t]his new object we can call objectile. As Bernard Cache has demonstrated, this is a very modern conception of the technological object" (Deleuze 1993:19). As but one possible technographic demonstration, it is clearly possible to provide of other versions. There is sufficient ambiguity in Deleuze's 'very modern' here to suggest that objectiles might be contemporary devices, current examples of the Baroque archetypes he enlists: a camera obscura, ceilings of painted skies, trompe-l'œil paintings – to which can be appended the veduta, an infinite alignment of mirrors and their recursive pleatings and foldings – perhaps as experienced by the narrator in Borges's *There are More Things* (1977:51).⁴¹³ The Baroque devices of Deleuze's *The Fold*, precede those of a *new aesthetic*. They are the devices in which a renewed interest in the corpuscular matter of Epicurean bodies, simulacral perception and

⁴¹³ "I also recall a V of mirrors that became lost in the upper darkness" 1977:59.

philosophical objects came to figure in the regulation of boundaries between objects and subjects in the seventeenth and eighteenth centuries. In cunning designs of geometric curio-objects, perspective landscapes and architectural optics, objectile folds fluctuate, move and transform as perceptual screens. Deleuze's 'modern' objects also, as we have emphasised, refer to the paranoiac-, miraculating-, influencing-machines of twentieth-century pataphysical fictions and the desiring machines of *Anti-Oedipus*. In contrast to the Baroque world as the rigging of theatre,⁴¹⁴ in *Anti-Oedipus* everything in the world is instead a factory of accelerating machinic operation. Equally, these very modern objectiles might refer to the cybernetic design of isolating black boxes – monads – of third generation machines in ways which tend towards both fabrication and fabulation, opening onto digital design's other speculative tendencies and a tensile relation between demonstrations of the monstrous as fantastic and regulative fiction. Such speculative tendencies might be found in digital culture and speculative design as tendencies towards the fantastic or the abstract.

David Savat's (2009) essay on the objectile as a database form of modulatory control is helpful here at least in clarifying the objectiles's mediality. However, the nature of its modulatory power is not limited to the extent to which objects (and it follows, subjects too) are 'no longer designed but calculated' using the numerical control functions of third generation machines (Cache 1995: 87), but instead, as we have seen with Pierre de Latil's clinamen of anti-chance, this modulatory power is that of a generation of machines with a rather more eccentric cybernetic genealogy. With this eccentricity in mind, D&R's speculative technological objects seem to fit the definition 'very modern' in the workings of bachelor machines as we have seen. Furthermore, the objectile is in urgent need of the modulations afforded by software running on just such a speculative hardware as that constructed by the Cornelius or Simondon

⁴¹⁴ I am grateful to Barry Curtis and Patrick Wright and their Flat Baroque: 'Special Effects' or the Rigging of the Whole Wide World from which the term 'rigging' used here is adopted.

experiment. If the designing of the objects of either tube-tracts or a 'cinema of things' is to be productive of flows, breaks and interruptions, design will depend upon an operating system of exceptions and the construction of a kind of anti-computer.

We might then re-pose Cache's question at this point, by asking once more, 'what is an object?' As Cache makes explicit, the objectile is an ontogenetic concept, one that he and Deleuze develop using concepts from Simondon and Bergson and one which need not distinguish images from things. Following Simondon, ontogenesis is a theory of the phases of being, the becoming of being in general. It replaces philosophical ontology as a preceding of ontology – what might be conceived as preceding or anticipatory of the ontological in ways not dissimilar to the ways in which pataphysics goes beyond physics and metaphysics, but nonlinearly and in 'reverse'. For Deleuze, ontogenesis is an 'individuating difference' which must be conceived first within its field of individuation (Deleuze 1994: 252). Designing, then, is a becoming, an intensity forming out of its own field, out of differential intensities where problems without programmes only speculations, become visible through imaginary solutions requiring imaginary sciences. For Deleuze and Cache, designing technological objects proceeds in accordance with Simondon and Bergson and an account of ontogenesis as the actualisation of the virtual, in folding and unfolding procedures where access to problems and solutions can be achieved only discontinuously. In a discontinuity with what Jarry would term the worlds supplementary to this one without implying a transcendental beyond, but requiring an active synthesis of memory and the imagined. A synthesis superimposed in what Jarry terms 'foliated space' in which the 'as if' of fictionalism is replaced by a technographic prototype in which 'both', 'and', are perceived at the same time, to repeat an earlier argument about the superimposition and synthesis of imagination and an allagmatic spatial surface.

In returning to our questioning of pataphysical fictions in speculative design and our discussion of the technography of these in our earlier syzygies, we can first count these as the objects of ontogenetic modulation by accounting for them in Cache's sense of the object as a set or cinema of things. Such a cinema of things is the becoming and unfolding of an object's dynamism. This unfolding unfurls across many sites and at a variety of scales including those beneath the threshold of human or cinematic perception, at the scale of the minerals as a sub-perceptual domain, at the infinitesimal dimension of indeterminate matter. We can then give an answer to the question 'what is an object?' – that it is those modulations of a speculative set of things, in "*the modulation of the object itself*" (Deleuze 1989: 27) designing itself across these sites, scales and speeds. The object so conceived constitutes those processes of individuation giving access to the teeming dimensions of the fold as electrophysical waves, in strata built up in micro-electronic aggregates of silica forming in the diegetic and technographic prototype.

An ontogenetic speculative design practice follows the traits of a fictive expression. As with the Deleuzian seeds of time and the fold, this practice of designing speculative objectiles is one which entails different ways of involving movement and time in modulations of matter in technographic artifice. For Cache, this is in the framing of singular figures, what might be described as numerical screens or signaletic membranes.⁴¹⁵ That is, as frames in the frequencies of movement-images, as topological surfaces and volumes. If the subjectile is the extension of a surface topology, then at the micro-levels of electrophysical media, the objectile is a creative modulation of the volumetric stream of a speculative matter-flow. In summary, then, the significance of the objectile some thirty years after the event of its introduction is not a result of the production of architectural figures or of architectural fragments, building components, or of furniture design in the practice of post-

⁴¹⁵ I am mindful here of David Greene's critical writing On Photoshop as well as Deleuze's reference to the flat-bed-picture plane in thinking of technography as drawing by staring at a vertical screen.

Cacheian object creation. Its significance lies, rather, in the expression of future technical substances in fictioning processes of software design, hardware design and electronic design converging in technographic material. The objectile can now be further loosed from the stratum of architecture on which it has become lodged. By experimenting with the opportunities offered, we might deterritorialise the objectile further into/out-of code, accelerate its movement through the visions of both software and hardware in speculative design. With this swaying and veering mobilisation of things and their infinitely varied dimensions in mind, the clinamen of this text now follows its own whim to swerve into other things that matter.

4.3.1 The Assimilation of the Objectile to the Clinamen.

The thesis next attends to the passing, yet insightful, comment by Massumi in a footnote to his *Parables of the Virtual* (Massumi 2002: 279–80, n.13) that the objectile might be assimilated to the clinamen. In this footnote Massumi provides what appears to be an extensive reference to the usage by Deleuze, both alone and with Guattari, of the clinamen. What is clear from Massumi's footnote and the survey and analysis of the concept undertaken for this Thesis is that while Deleuze's introduction of the objectile is given in his book *The Fold: Leibniz and the Baroque*, the clinamen appears across Deleuze's project. This need to conduct a wider reading of Deleuze's work should not suggest a drive to form a homogenising unity of concepts, but rather to consider a fuller set of relations for any assimilation of the objectile to the clinamen.

As has already been noted, in the Epicurean philosophy of Lucretius, *clinamen*, designates 'the smallest possible angle' (Motte 1986) by which an atom deviates from the laminar flow of the line of its fall through the void (Serres 2000). The deviation of the clinamen in the declination of its fall allows what would be the universal descent to death of all atoms to instead swerve into the teeming becoming of life. The clinamen marks the aberrant

becomings of a world without cause. Deleuze's conception of the clinamen, the simulacra and the reception of these and other aspects of Epicurean materialism in his work is given detailed and recent scholarly attention in Bennett (2013) and in Johnson (2014); Brassett and O'Reilly take up concepts developed in Deleuze and Design (Hales 2015) in their paper on the swerve and innovation (2018). Collectively these authors' and works published as part of the development of this thesis, form a part of what Johnson has termed the 'Deleuze-Lucretius encounter' (2018). However, Bennett, Johnson, Brassett and O'Reilly leave to this thesis the further articulation of the assimilation of the objectile to the atomistic concept of the clinamen suggested by Brian Massumi (2002).

As we have seen, the clinamen is a significant concept in mechanologist Gilbert Simondon's theories of ontogenetic individuation (Simondon 1992). It might be seen to have swerved into Deleuze's thought as if the declination or trajectory of inframince, a relation of relations as an inflection, as a becoming-modulation of the objectile. Bergson, too, engages the concept of the clinamen, and for him it is the refusal to reconcile materialism and mind. Bergson's *Philosophy of Poetry: The Genius of Lucretius*, a brief annotated essay on Lucretius' *On the Nature of Things*, provides his account of the Epicurean atomic theory of reality. With respect to the clinamen, Bergson suggests that:

The human soul, like other bodies, is composed of atoms and subject to their laws. Its atoms also move naturally and inevitably by virtue of their weight as well as individually by virtue of their clinamen. When they move by virtue of their weight, the soul is passive and surrenders to their inexorable laws. But when they avail themselves of their faculty for deviating slightly by inclining to the right or to the left, the soul is active and takes advantage of its freedom. Finally, the soul will perish forever when death decomposes the body and frees its atoms.
(Bergson 1959: 75)

Deleuze argues for a Bergsonism in which duration is in perpetual becoming. Bergson, duration and the clinamen intersect in Deleuze's retrieval of the atomism of Lucretius, and pataphysics. In Bergson's *Time and Free Will* (1910), *Matter and Memory* (1911) and *Creative Evolution* (1911) it is the background presence of eternally shifting cosmic matter, the irreducible swerve, that folds time; in *The Fold* this corresponds to Leibniz considering atoms of matter contrary to reason.

In each of Massumi's references to the clinamen in Deleuze, the sense of Cache's account of the objectile is subtly reinforced, not as controlled chance but as the becoming of objects as a 'cinema of things' (Cache 1995: 29); that is, as a Simondonian and Bergsonian ontogenesis. Furthermore – to continue this review of Massumi's partial blind spot – the clinamen swerves into appearance as a proposition in Deleuze and Guattari's discussion of nomad science (Deleuze and Guattari 1996: 361), where they consider it a concept of an eccentric science. Other traces of the clinamen's fluctuating movement appear in the theses of the movement-Image (Deleuze 2001: 83), and it is of significance in the overturning of Platonism found in *The Simulacrum and Ancient Philosophy*' (Deleuze 2009: 291–320), where, as we have seen, the clinamen is presented as a 'kind of *conatus* – a differential of matter' and 'by the same token, a differential of thought' (2009: 306). In both *A Thousand Plateaus* and *Simulacrum and Ancient Philosophy*' the clinamen is defined as a becoming manifesting as 'neither contingency nor indetermination' (2009: 306), as a unique movement in a 'unique direction in a minimum of continuous time' (2009: 307). It is certainly the case then, as Massumi intimates, that the clinamen has productive relations with the objectile in its conceptual development between the thought of Deleuze and the practice of Cache. Most intriguingly though, given Massumi's insistence that Deleuze 'adopts Bernard Cache's term "objectile"' (2002: n.13) in *The Fold*, missing from Massumi's survey is Cache's own explicit reference to the clinamen in his development of the objectile:

Let us now return to the abstract functions of the frame. The frame selects a vector among a multiplicity of possibilities ... vector to vector relations create action systems that are never simple. For action is in itself complex, as the vector is inseparable from a clinamen. (Cache 1995: 58)

Also, missing from Massumi's footnote, almost certainly significant given Cache's preceding cinematic rendering of the objectile, is Deleuze's reference to the clinamen in *Cinema 1: The Movement-Image*:

[the frame] does not 'terminate' the movement without also being the principle of its acceleration, its deceleration and its variation. It is the vibration, the elementary solicitation of which movement is made up at each instant, the clinamen of Epicurean materialism. (Deleuze 2001: 83; original emphasis)

In the temporal modulation of objectiles, in the continuous variation of matter of objectiles, matter is constantly exceeding its framing. If the clinamen can be defined by the framing of the fold that goes on to infinity, such a fold is the inflection that Deleuze says Cache names "*intrinsic singularity*", it is what Leibniz calls the "*ambiguous sign*" and Deleuze himself "*the authentic atom, the elastic point*" (Deleuze 1993: 15). The assimilation of the objectile to the clinamen then is that of a converging of vectors of matter as an excess overflowing: "*the vibration, the elementary solicitation of which movement is made up at each instant*" (Deleuze 1986: 83).

The clinamen is a principle of ambiguity: it is the passing presence of a paradox as might be expressed in a counterfactual or the conjectural, the ubiquitous creation of relation that repeats difference endlessly. Stephen Greenblatt's *The Swerve: How the Renaissance Began* (2011) locates the clinamen historically, tracing Lucretius's poem on the nature of things from

ancient philosophy to the seventeenth century. *The Swerve* is one valuable source for a history of the clinamen in renaissance imaginaries, but there is nothing in his volume, no matter how erudite the scholarship, that can begin to tell the story of how Jarry comes to incorporate the clinamen within the science of imaginary solutions, Motte suggests Bergson, with some justification, but the influence of Coleridge, and of "*the second world as the imaginary or hypothetical world of fiction*" (Berger 1988: 3-40) as one of Faustroll's *Livre Pairs*, as well as for the atomisation of belief in a 'suspension' within what Jarry describes as 'eternity, is surely another, if a more romantic and whimsical one, at one remove from the discussion of pataphysics in science fiction and design research. Motte's *Clinamen Redux* remains a most authoritative survey on the Clinamen in the twentieth century, yet however thorough this may well have been, and its scholarship is indeed detailed there remained some significant gaps and a need of update both generally and in specific relation with the needs this thesis required.

Whilst Motte, in chronicling the rehabilitation of the clinamen in twentieth-century continental thought more than adequately signals its entry via Coleridge, Jarry, and Heisenberg he mentions neither Baudrillard, Deleuze nor Simondon, with Jarry being at root the likely source of the clinamen for each of these philosophers. Motte nevertheless declares Serres – one of Deleuze's known sources in *The Fold* – a 'Lucretian fundamentalist' (Motte 1986:276). Motte's citation of Serres's account of the clinamen is worthy of reflection here, as it recollects Deleuze and Guattari's nomadic science:

In the same way that the analysis of being produced atoms, the analysis of vectorial space produces the clinamen. Movement and rest are joined in turbulence, constancy and variation, life and death. There was perhaps nothing in all of Antiquity more accurately seen and stated. (Serres cited in Motte 1986: 276; original emphasis)

A significant omission, at least insofar as this impacts in discussing speculative design and the political economy of accelerationist futures, as we have already seen, is the doctoral thesis of Marx (1902). It is distinctly unlikely that this will have influenced Jarry in his pataphysical deployment of the clinamen – However, given Deleuze & Guattari's commitment to Marx ⁴¹⁶ under a closer examination of the clinamen in Marx's early thought can be productively put into relation the *Fragment on Machines* and although Lyotard who does not go quite far enough but observes, in *Energumen & Capitalism*, that the earlier Marx – a pre-Marxist Marx – is interested in the continued reference to Lucretian atomism in the pages of *Capital* and hence a clinamenic fragment on machines and a pataphysical machine might then conspire in Deleuze and Guattari's *Anti-Oedipus*.

In '*The Fold*' Deleuze chides Serres for stressing not this 'turbulence of constancy and variation', but the importance of an 'architecture of vision' in the changing status of the subject (Deleuze 1999: 21). In the passage in *The Fold* immediately following the introduction of the objectile, Deleuze credits Serres with suggesting a dynamism between the setting of a point of view for the centre-less subject in a 'world of infinity' and the status of the object as 'only existing through its metamorphosis' (Deleuze 1999: 21). In the metamorphoses of the clinamen described in *The Birth of Physics* (2000), Serres declares an isomorphism between the natural world and atomic physics of Lucretius' poem *De Rerum Natura* and a modernised negentropic nature inspired by thermodynamics and cybernetics. Massumi's assimilation of the objectile to the clinamen suggests in its own isomorphism, a topological continuity of Serres's view of nature, with the clinamen operating as a complexifying temporal creativity, and the objectile as a designing modulation of a stream of variable matter. However, as the earth, nature, is incomputable

⁴¹⁶ "Félix Guattari and I have remained Marxists, in our two different ways, perhaps, but both of us. You see, we think any political philosophy must turn on the analysis of capitalism and the ways it has developed" Deleuze in conversation with Antoni Negri in Deleuze, 1995, p. 171.

– as it must be for Cache and for all electrophysically prototyped signaletic design because it can never assemble its own elements into a whole but instead coagulates into 'a pure multiplicity of ordered multiplicities and pure multiplicities' (Serres 2005:111). Here Serres might as well be speaking pataphysically as well as literally of the clinamen, for what is required 'is the science of relations, of general links between atoms of different kinds ... nature is formed by linkings; these relations, crisscrossing in a network' (Serres 1982: 114). From Lucretius' creation of *something by deviation* and the *deviation from a state of equilibrium* in the clinamen, Serres develops a kind of feedback system, a reflexive system capable of resisting "*disintegration, which is the whole of time, [and] operates by flux*" (2000: 73).

How could it be that the technological object might withstand such temporalities? Are objectiles atemporal and universal, as Badiou suggests of the clinamen?

The clinamen is outside time, it does not appear in the chain of effects ... the clinamen has neither past (nothing binds it) nor future (there is no more trace of it) nor present (it has neither a place nor a moment). It takes place only in order to disappear, it is its very own disappearance.
(Badiou 2009: 62)

But this is Badiou's error – the clinamen cannot be outside time. It is rather those forces of modulation within time, operating atemporally as matter-flow, a negentropic and complexifying creative force productive of new temporalities. The objectile, as clinamen, as we have found previously in its sense of both ontogenesis in Simondon and Deleuze's Bergsonian becoming, is a becoming in processes of individuation and the teeming dimensions of the fold. It unfolds in the excesses of its unfurling frame of reference. An ontogenetic and speculative design entails movement and time in modulations of matter, in traits of expression and in vortical waves: the clinamen is vortical, it is a vortex that operates "*in an open space throughout which things-flows are distributed*"

(Deleuze and Guattari ATP 1996: 361). It appears that the clinamen is that paradoxical negative entropy immanent to entropy. As such it is an atemporal force: it is the growth of complexity and the production of novelty and innovation. The Lucretian world, the thermodynamic and the cybernetic world, might be 'globally entropic' and this its appeal to the science fiction new wave, but the second world of this pataphysical energy also contains certain negentropic 'swirling pockets' (Serres 2000: 124), variable streams in eternal flux, matter in temporary modulation, within which new sets of things form and create: objectiles and clinamen. There are, however, pataphysical speculations that might be implicated in the clinamen's swerve, and serve to further dislodge the objectile from its architectural strata and to recover it as a concept for design. These will now be drawn together in the entanglement of the clinamen and the technological objects of pataphysics.

4.3.2 A Pataphysical Clinamen

In its pataphysical treatment the clinamen is the principle of exception. As elaborated in Christian Bök's poetic work on the clinamen, it is a swerving principle: "the atomic glitch of microcosmic incertitude" (Bök 2002: 43–5). The clinamen is ubiquitous, ambiguous and forms alliances or relations; as a principle of exception, it is a glitch as well as an irritant, as an inclination the clinamen is deviance and difference. For Bök, Serres and Deleuze, the Lucretian world is a swirling flux of things. This sense of a paradoxical entropy of clinamenic negentropy, rooted in the ideas of Epicurus and Lucretius, is the basis of theories of matter emerging in the nineteenth century. This theory of the diverse is claimed by Jarry, anachronistically, from the Lucretian materialism that undergirds Kelvin's theories in *Steps Towards a Kinetic Theory of Matter* (Thompson 1889). Jarry's anachronistic claim is made for pataphysics in his essays '*Concerning the Measuring Rod, the Watch and the Tuning Fork*' and '*Concerning the Sun as a Cool Solid*' (Jarry 1996: 100–6). Deleuze too proposes that the clinamen is the principle of the diverse, that it is the force of a nonlinear and dynamic philosophy. For Deleuze, for Serres and

perhaps for Bergson and Jarry, then, the clinamen is matter and thought in constant motion and in mutual generation. However, reality for Jarry's fictional character Dr. Faustroll is that which does not repeat but has an uncertain order. This might be expressed otherwise, as the difference that is endlessly repeating. Jarry's pataphysical machines are expressive of a nonlinear sense of the flow of time, as in the reversions of Aion present when "the past created by the Machine when it returns to our Present and which is in effect the reversibility of the Future" (Jarry [1899] in Moorcock, *The Traps of Time*).

Objectiles are similarly pataphysical time machines, their forms of design are but instances of the speculative, fragments of possible worlds, the becoming of laws of exception and the anomalous. And so, design becomes a speculative branch of pataphysics, 'the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their lineaments' (Jarry 1996: 22). After Deleuze's brief essays '*An Unknown Precursor to Heidegger: Alfred Jarry*' (1998: 91–8) and '*How Jarry's Pataphysics Opened the Way for Phenomenology*' (2004b: 74–6), Cache's question concerning the object and Heidegger's general question concerning technology swerve into clinamenic confluence. Deleuze, in these two texts, is interested in asking pataphysical questions concerning technology through his creation of the schizoid personae Heidegger-Jarry and Heidegger-Ubu. Deleuze refers to pataphysics as 'the epiphenomena of a technological being' (1998: 92), to which we might add in a pataphysical pairing which might arise through such conceptual personae: the milieu of the abyss-eternity. Such a pairing would be a Heideggerian abyss of the cybernetic will to will, paired with Jarry's science-fictional neologism of ether/eternity as a cosmological doctrine of a technological world of pure becoming where whatever you will, you also will its eternal return. Within this abyss-eternity, an abyss that exceeds metaphysics, Heidegger-Ubu would have that most kinetic of events, modern science, unfold in the technological. It is the technological that Deleuze has Ubu insisting upon as ubiquitous: "anarchy is ...", Deleuze (1998: 93) suggests, ventriloquizing Ubu, without the ellipsis but nonetheless inviting

some addition; *"anarchy is"* [...] in the objectivity of the technological, in the clinamen of its becoming; the becoming of ambiguity and alliance. In such becomings Deleuze subsumes the thinking, the phenomenology, of the Heideggerian 'fat Being' of technology to pataphysics; he subsumes the thinking of the being of phenomena as the phantom of difference and its epiphenomena. It is epiphenomena that Jarry says the pataphysician studies: *"an epiphenomenon [which] being often accidental, pataphysics will be, above all, the science of the particular..."* (Jarry 1996: 22). In turning towards the epiphenomenon, Deleuze suggests pataphysics as a means of overturning Platonism. It is 'the great Turning' he says, 'the overcoming of metaphysics' (Deleuze 1998: 91). In this he aligns his conceptual personae with Jarry's intention for pataphysics to exceed metaphysics in ways not dissimilar to the exceeding of physics by metaphysics. This does not so much *overturn*, however, as *accelerate* a supra-metaphysical *deviance*. Nevertheless, viewed as an aberrant accelerant reversion, it is possible for Deleuze to *"consider Heidegger's work on technology as a development of pataphysics"* (1998: 91). Indeed, Deleuze suggests the adoption of the imaginary technology of pataphysics as the completion of metaphysics, or of its realisation in 'the outcome of metaphysics as planetary technology and a completely mechanized science, the science of machines in all its sinister frenzy'. Going further still, Deleuze claims that *"Jarry's entire oeuvre ceaselessly invokes science and technology"*; that Jarry's invocation of science and technology in the pataphysical is *'populated with machines and places itself under the sign of Bicycle. The bicycle is not a simple machine, but the simple model of a Machine appropriate to the times'* (1998: 93).

Deleuze refers here to the frame of a bicycle for the connections it creates with a technology as that which moves (Jarry), a design for a frame that for Jarry is his simple model or design for a Time Machine. In Jarry's *'How to Construct a Time Machine'* ([1899] in Moorcock 1979) it is the bicycle frame that is transformed into an altogether not so simple machine, a gyrostat; and it is the design of this as a frame, that of the gyrostat or gyroscope, which Jarry

expresses as 'the transformation of a succession into a reversion' (ibid. 121). It is worth recalling here, an observation from earlier within the thesis of reference to Oliver Lodge – whose *Ether of Space* (1909) preceded the publication of *Faustroll* by only two years and who it was claimed William Crookes alerted to Jarry's *Time Machine* in 1899 and to note again the remarkable syzygy of frames and gyroscopes between Jarry's bicycle/Time Machine and the *Ether Machine* designed by Lodge.

Alongside such particularities and peculiarities as these, produced out of Deleuze's schizoid Heidegger-Jarry-Ubu, other encounters of a similarly multiple nature might be created. Following Deleuze's pataphysical genealogy for the Heideggerian technical object to its logical conclusion, Jarry-Faustroll is henceforth to be recognised a precursor to the speculative designer and it becomes necessary to consider D&R as designers of speculative hardware, what this thesis has related to the technography of architecture fiction and to mobilise the objectile as a pataphysical fiction, for this enables a media theory (otherwise absent or occluded in Deleuze's writings) to be folded into Deleuze's observations, through other conceptual personae, to the extent that it becomes possible to employ – as well as the twofold thought of a Heidegger-Ubu – a schizoid Cache-Ubu: the inventor of the most pataphysical of media objects. For Cache an objectile material is signaletic, mineral and energetic. In his later writings, however, a platonic impulse comes to the fore in his insistence in the Euclidean and the orthographic, and an obsession with the architecture fictions of Philibert de L'Orme. Cache's architecture fictions required the design of a speculative probe-head, the becoming of a technological object, an objectile assimilable to the clinamen of pataphysics. A speculative technographic hardware, a creative relation between variables interrupting an eternal stream of vital materialities with the earth as its book of fictions, fulfils such a function. The clinamen might be taken here to be synonymous, for Cache-Ubu, with an aberrant electronic difference Simondon discovered in his own engagement with design through his construction of a modular electronics in making an analogue television set. There are these two

poles of influence in Cache's work and in speculative design: the architecture fiction of the treatise and the material constructive impulse of prototyping. Furthermore, in what might otherwise be considerably more oppositional, this is a concern he seems to share with Deleuze and Guattari:

By assembling modules, source elements, and elements for treating sound (oscillators, generators and transformers), by arranging microintervals, the synthesizer makes audible the sound process itself, the production of that process, and puts us in contact with still other elements beyond sound matter. It unites disparate elements in the material, and transposes the parameters from one formula to another. The synthesizer, with its operation of consistency, has taken the place of the ground in a priori synthetic judgement: its synthesis of the molecular and the cosmic, material and force, not form and matter, Grund and territory. Philosophy is no longer synthetic judgement; it is like a thought synthesizer functioning to make thought travel, make it mobile, make it a force of the Cosmos (in the same way as one makes sound travel). (Deleuze and Guattari 1987: 343)

Such concern is for both the technics and the modulatory capacities of synthesizers, for which we substitute a speculative thought. Albeit that for Cache the speculative interest is with technical-media as material, whilst it is the imaginary architecture of the treatise which must be considered as a part of the genealogy of a media theory of speculative and pataphysical machines. This having being said, for Deleuze and Guattari in the above passage, it is with the speculative thought as paranoiac-, miraculating-, or influencing-machine and for its affective and intensive capacities that such a genealogy might be noted.

In these constructive practices, and specifically in Cache's physical construction of hardware and software systems in the 1970s there is a shared lineage of physical computing and the maker practices behind the fabrication

of diegetic prototypes at the RCA. These tendencies towards substance can be observed too in Simondon, in his construction of a television receiver, where we can sense a concrete thought giving rise to the objectile as speculative concept. We might in fact now properly refer to a Simondon experiment, a Cache experiment, as well as to a 'Burroughs experiment' (Deleuze and Guattari 1984: 370), as pragmatic design practices with electrophysical material to which we can append the architectural fictions of pataphysical objects, for these drawings and models are pragmatic diagrams and working drawings, auguratic models and technographic machines. If this is an insistence in the mattering of the pataphysical fiction as media object or tube-tract – that is, in designing modulations in the matter-flow as design fictions or architecture fictions, with the expressive traits of the structures and potentialities of matter as a diegetic mode of existence– then there arises an interest in how to design-in the softness, temper the hardness and modulate the swervy-ness of the objectile. There is an interest in the influence of 'demonstration' both through the experimental or didactic objects, and 'working' prototypes in speculative design⁴¹⁷ as this is expressed in the *exegesis*. To return to an earlier example, this is visible in the workshop of maker of architectural fictions Nat Chard and where Chard's own devices, such as those of his *Institute of paradoxical shadows* and those designed to work together with Perry Kulper's drawings work as technographic machines. As well as the imaginary machines of Gie's paranoiac machines, these, and even Duchamp's bachelor machines, and the shadows of Chard and Kulper are each described here not at the level of identification as pataphysical, but as part of a Deleuzian theory of time and consciousness, which is to say in considering speculative design as a thought experiment in matter.

⁴¹⁷ What can be said about this is that one product of undertaking this Thesis has been a certain pedagogic development. Most clearly demonstrable in my interactions with CSM but also in my return to teaching in a school of architecture.

4.4.0 FINAL COMMENTS

Whilst there is no doubt much that might be set up in oppositional tendencies between Deleuze and the renaissance imaginaries⁴¹⁸ of the architectural treatise, what has been explicitly laid out in this thesis has been a productive set of transversal connections with which to expropriate the exegesis on speculative design. The modulation of technographic hardware as objectile also sets up topological continuities between pataphysical fictions, memory and the modern technological object of technical media. The diverse works we might name as '*technogenetic technographies*' inspiring the comparative approach to the material studied in this thesis, similarly chart the tensions and the tendencies expressed in the pataphysical fictions of its *Syzygies*. That such topological continuities might be foreshadowed by Epicurean concepts of life, renaissance mnemotechnics and the imaginary objects of the architectural treatise and the cyberphysical, should not be overlooked in considering what has been at stake in this research.

Aspects of the science fictional milieu of Deleuze's philosophy have been found to be demonstrably pataphysical, implicated as mode and genre in the work of pataphysicians both in translations and transformations of science fictional concepts hybridising detective, which is to say, empirical methodologies. These have been shown to also supervene on the plane of composition of artistic research in which speculative design is implicated, particularly in the reverse ekphrasis of its technographic prototypes. This is to say, the 'diegetic' precedents of the exegesis have been extended to exemplars of technographic and signaletic material in pataphysical fictions which can further inform speculative design research practice, beyond its orthodox *exegesis*.

⁴¹⁸ and a peculiarity of what Peter Ackroyd has termed the English Imagination, essentially syncretic, which permeates the pastoralism and picturesque concern of British Speculative Design as represented in my thesis by Greene, Spiller and though less explicitly, once amplified, nonetheless significantly, Dunne & Raby's 'pataphysical realm'.

The research of this thesis commenced from its noticing that in the *Exegesis* on speculative design, the pataphysical science of imaginary solutions seemed to have been supplanted by a philosophical commitment to an hylomorphic model of design as a science of the artificial, one sitting alongside its analytic and modal logic of possible fictional worlds. Rather than the analytic and modal logic of possible worlds, revealing the pataphysics of Deleuze's own science fictional and detective methodology has enabled a suggestion that the practices of hyperstition, already deeply implicated in fiction as a methodology at work in accelerationist political-aesthetics, approximates the modulatory power of what Deleuze named objectile. Through the encounter created between pataphysical concepts, notably the clinamen, and with the philosophical allegiances and antagonisms of speculative design the thesis has applied concepts which can now be further deployed in the fictional and possible worlds of speculative design. The thesis has constructed a third position of its comparative philosophical analysis between Baudrillard and Deleuze and Guattari creating its aesthetico-conceptual theory-fiction, an objectile assimilated to the pataphysical clinamen, which it mobilises for speculative design and (left) accelerationist philosophy.

We call possible what is not impossible: obviously, this non-impossibility is the condition of its actualisation. But this possibility is not a degree of virtuality...⁴¹⁹

The research undertaken in this Thesis has been committed to a pataphysical and political aesthetics of imaginary solutions, one inherent to Franco Berardi's attempt to reconcile Jean Baudrillard's theory of simulacra with Gilles Deleuze and Félix Guattari's politics of desire. Rather than pursue Berardi's reconciliation directly, in this thesis, the pataphysical gadget of Baudrillard's *System of Objects* has been taken to be coterminous to the

⁴¹⁹ Henri Bergson's 'The Possible and the Real' in Bergson, Henri. *The Creative Mind*, translated by Andison, Mabelle, L., (1949) 2010 edition.

pataphysical machines of Deleuze-Guattari's philosophical phylum. Beradi's argument in countering the new forms of capital of the philosophy of accelerationism has been transposed by the thesis to question the political commitment of speculative design. By constructing a comparative encounter of pataphysical fictions with Baudrillard's *System of Objects* and Deleuze and Guattari's machinic philosophy, Deleuze's 'anti-computer' a non-hylomorphic concept of the objectile has been reprogrammed as speculative and pataphysical noting the implications for hyperstitional accelerationist aesthetics. This reprogramming has involved providing support to Massumi's previously unsubstantiated supposition (2002:280 n.13) that the objectile is assimilable to clinamen. By proposing a pataphysical (imaginary) solution, this concept has now been mobilised dislodging it from the plane or strata of architecture for the technographic objects of speculative design research.

To summarise, what has been at stake in this research is an account of the constituting fictions of objectiles in the ontogenesis of possible worlds – realities – which were virtual before these new worlds emerge. What has been at stake in this research for the field of design philosophy – and for the field of speculative design research – was a commitment to the science of imaginary solutions and its making of additional *universes supplementary to this one* as immanent to the present (as a field of finite possibles of the virtual). That is, a clarification of a commitment of speculative design research to pataphysics and to offer some implications for designing as a non-hylomorphic or 'artisanal' actualisation of nonhuman potential. Attention has been given to political ontologies of accelerationist philosophies within the thesis and its consideration of the pataphysical production of objectile-dividual subjectivities through the actualised fictional artefacts of speculative design.

4.4.1 Future Directions

If, at the time of writing the present Thesis, the concept objectile had become lodged on the plane or strata of the architectural, then its basis in what Deleuze terms 'third generation machines' and its proximity to the possible

worlds of Deleuze's *Le Pli*, opens it to renewed mobility. This mobility is demonstrated in the present Thesis by its assimilation, as a speculative objectile for design research, to a pataphysical clinamen. The originality and novelty of this remobilisation of Deleuze's concept, objectile, stems from the creativity of a deliberate misreading of Deleuze's use of the concept clinamen as pataphysical. In order to support the claims made within the present Thesis, original research has been completed on the presence of pataphysical concepts, machines - and pataphysicians - in Deleuze's philosophy, in the science fictionality of the milieu within which certain of his concepts are developed, and, in the interdisciplinary cultural histories intertwining pataphysics, the objectile, the clinamen and cybernetics. Within this context, the present Thesis has argued for a pataphysical mode of designing the production of subjectivities. This is to say, that in assimilating one concept the objectile, to another the clinamen, that the objectile swerves through a changeable but non-infinite field of the possible, contributing to the supplementariness of design fictional universes: there is a functioning of pataphysical fictions in the ontogenesis of technological objects.

Future lines of pataphysical and philosophical enquiry for artistic research might further pursue, by other means follow, a *willing error* of the clinamen's swerve a generative falling *se rabat sur*, the fall of the pataphysical objectile and its combinatorial powers back into the plane of its composition. Whilst the diversity of sources and material consulted in the present Thesis provides for many avenues of further study, there are three which provide impetus for further research and a series of threads that reflexively operate in my own pedagogy, and return to the practice of architecture by other means. First, is the ongoing collation of visual and literary exemplar pataphysical objectiles and pataphysical machines, as only a small selection of those encountered have found a place within the present Thesis illustrating its comparative philosophical and pataphysical concern. For example, there is the tantalising possibility of re-opening the call of the Office of Patentry to compile a compendium of pataphysical machines including those referenced by the

present thesis. Second, is the desire to continue to pursue the philosophical motivation of the present thesis – which is to say, a further engagement across the continental-analytic divide. From the analytic tradition the modal logic of possible worlds, for the present project, has been something of an antagonist or foil to the Deleuzo-Guattarian position adopted. There is much scope for this to be treated more generously, perhaps this could take the form of a counter-argument for the pataphysics of a science of the artificial? Third, is an area of research which began to announce itself more forcefully as the politically ubuesque milieu against which the present Thesis unfolded. That is, a need to continue to attend to the transition from what Deleuze identified as the third generation machines in its convergences of pataphysics, cybernetics and the society of control, to a fourth generation of objectiles: to the becomings of the cyber-physical, to the so-called fourth-wave of industrial revolution and the techonomic dimension of the pataphysics of the Future.

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