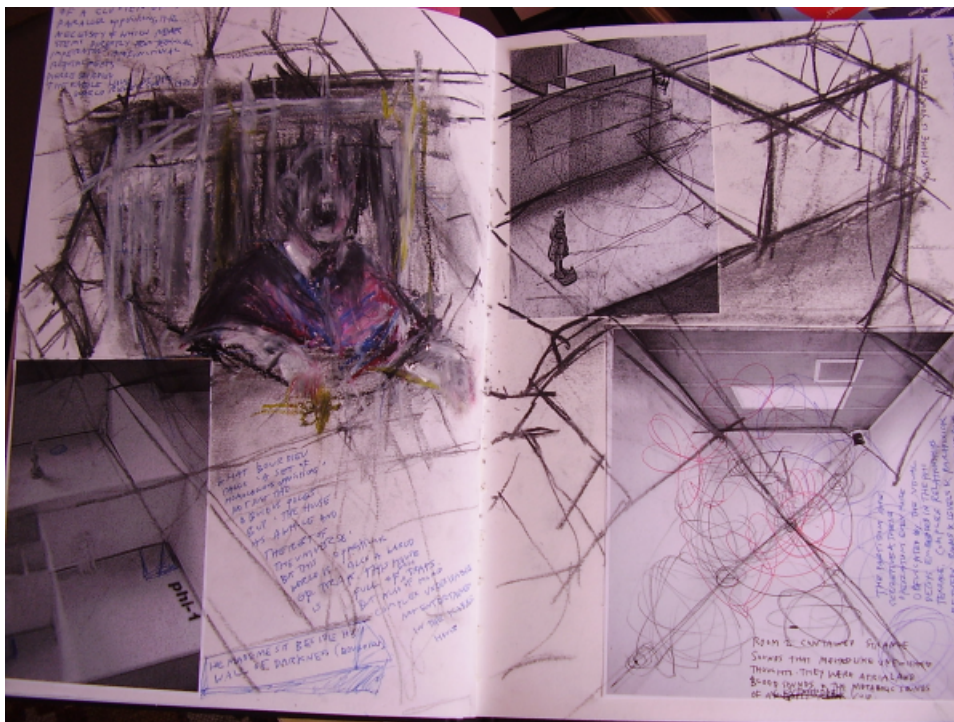Dr Eleanor Dare, Dr Alexandra
Antonopoulou

The Phi Books: Borders, Doors and Walls as a Collaboration methodology

Abstract

The Phi books' is a project that uses the house as a metaphor to explore the notions of interdisciplinary collaboration, consent and shared authorship. It uses participatory narrative, algorithms and designs about the participant's mental or physical houses to explore how borders, walls and doors facilitate collaboration. The project started in 2008 and since then it has lead to the production of books, interactive material, conference presentations and performances produced by the authors and the participants, which are both fictional and imaginative while also being methodologically reflective.

The artists are going to present their interpretations on the project as a paradigm of joining their individual practices and ending up with a common result that celebrates both collaboration and individuality.

The project is a response to the inadequacy of historical models for both theorising and practicing creative research collaboration, and to an apparent lack of theoretical mobility across diverse disciplines. Both papers emphasise the co-constitution of theory and practice.
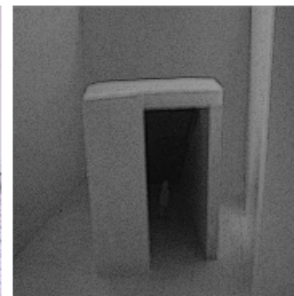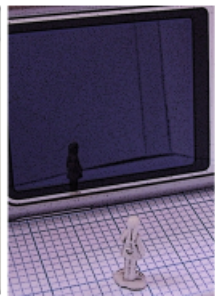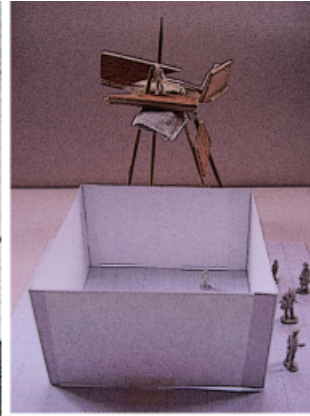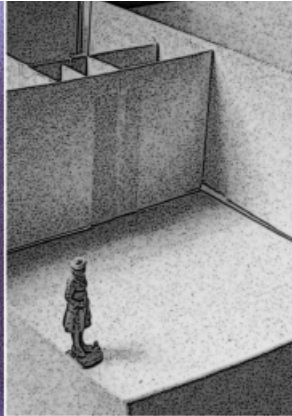
Introducing the Phi Books

In the spring and summer of 2009 Alexandra Antonopoulou and Eleanor Dare began an experimental research project which we are calling *Phi Books: Research territories through narrative.* The project resulted in the generation of two artist's books, in other words the book form was our medium, in the same way that other artists might use paint, stone, or a programming language. Both of us have been individually involved with the book form as the ground for our creative practice and were interested to investigate ways in which we might work collaboratively. To clarify further, Stephen Bury defines Artists' books as 'books or book-like objects over the final appearance of which an artist has had a high degree of control; where the book is intended as a work of art in itself' (Bury, 1995).

But beyond this undemanding definition, we also wanted to investigate our own anxieties about collaboration. Our research areas were very similar, but they were different at the same time. This reminded us of English terraced houses; even if they all have the same architecture, they are different from the inside, as they are occupied by different people. The houses were a great metaphor for our research since they were enclosing the idea of ownership. How can you own your research and at the same time collaborate with a person who possesses the same territory? Do you have to put up walls?

> What does taking possession of a place mean? As from when does somewhere become truly yours? Is it when you 've put your three pair of socks to soak in a pink plastic bowl? Is it when you heated up your spaghetti over a camping-gaz? Is it when you used up all the non matching hangers in the cupboard? Is it when you've drawing pinned to the wall an old postcard showing Carpaccio's 'Dream of St Ursula'? Is it when you experienced there the throes of anticipation, or the exaltations of passion, or the torments of a toothache? Is it when you've hung suitable curtains on the windows, and put up the wall paper, and sanded the parquet flooring? (Perec, 1997, p. 24)

In our case though, it sounded much more 'comfortable'. We both knew we had already been to each other's 'house', to each other's minds and it felt so natural to share our furniture and bits and pieces. This means that we were not afraid of each other because we had already shared ideas; but in this case there was also the title of our common project, that made things more formal. We were neighbours in two English houses: 'The Phi houses'.

The two volume *Phi Books* that have emanated from our collaboration involve fiction writing as well as paper and digital models, photographs, drawings, notes, conversations, code segments, paintings, food, baths, trips to galleries, and observations of people and everyday life. As we shall explain in this paper the work is algorithmically based but also interrogates the difficulties and pleasures of both structured and extempore collaboration, while outlining some of the complex forms

and interactions that both verbal and non-verbal researches can involve. Though each book is identified as either Alexandra's or Eleanor's book, they were in fact passed between us upon completion of each story, so that we wrote individually 6 stories , for each book, 24 stories in total, with separate pages of reflexive (or diffractive) journaling, and in addition a great deal of non-verbal material. So finally each book- house contained stories by both of us. We used this collaborative weaving of
narratives and the use of metaphor as a form of understanding each other, ourselves, and identifying out individual research area; The books therefore tell multiple stories, about characters, authors, research processes, negotiations, problems, creative provocations and our own lives.

As well as the question of inadequate historical models for theorising and practicing creative research, and the lack of theoretical mobility, the methodological and theoretical questions reflect our individual research interests; which is computation and artists' books for Eleanor and 'narrative in education, design and research' for Alexandra. Eleanor's questions include:

- In what ways we can use both *a priori* analogical structures and heuristic play to facilitate explorative research processes?

- How can computational processes be meaningfully re-mediated as aids to creative collaboration?

- There is also an investigation into the limits of *a priori* structures for creative collaboration, and production, drawing upon theoretical critiques of rigid goal orientation as outlined, for example, by Hubert L Dreyfus (1972), Lucy Suchman (2005) Gaver and Sengers (2004) Gaver, Boucher, Pennington and Walker (2006).

Alexandra is using fairytale and storytelling elements, odd situations and secrets, families, cats and speaking plates of grapes mixed with theoretical references to explore the connection between narrative and identity; how performing self and collective identity affects collaborative territories; how research borders, walls and doors facilitate a constructive collaboration environment. She is also looking at authorship in design and she is exploring ideas of story writing and making as a form of understanding ourselves and communicating with each other. Her way of writing is very personalized with fantasy elements but she is equally using contrasting bits of theoretically referenced text. This is done to outline the potential of using narrative as a form of academic writing and the promotion of knowledge in a research setting.

In the performance that will now follow we will both *show and tell* the Phi Books, performing them in an attempt to convey the logic of our practice and its so-called 'outcomes'. We wrote this paper the way we wrote the books, adding and responding to each others sentences thoughts and dreams with a view to communicating and reflecting upon our individual thoughts. But in framing our practice as adhering to some form of logic, we must as, Bourdieu entreats us,

acknowledge that the logic of practice is 'not that of the logician' (Bourdieu, 1990:80).

We are weary, therefore, of imposing a misleading degree of coherence upon the books. While we take full responsibility for the project we still define it as a research exploration, acknowledging that there are many more rooms and chambers that we haven't entered yet. We invite you now to join us in the society of phi-explorers and to enter the known and unknown territories of these two mysterious houses. We challenge you to add your own stories in our books by shaping our collective neighbourhood.

Room One

[Reverb sound]

E: A book falls from a step-ladder; from the manner of its falling we can deduce that the room is small and sparsely furnished with few soft surfaces or modern comforts. What kind of person would have a room like this, and what sort of book would they store, so recklessly, on top of a ladder?

A: Room one is a tiny room just 100 words. What could it fit in a tiny space of 10x10 words?

E: If we opened that book, no matter how battered, we would see that the story of room one is where this paper begins:

> *Although I know little about her it would be accurate to say that Elizabeth Cho is the closest person to me in the world. If, for some reason, we pressed ourselves flat like geckos against the party wall that separates our two homes there would be less than six inches between us. Her life resonates through the cool brick border. Recently I've moved my bed into the fifth room so I can hear her heart beating at night. It punctuates my sleep like the touch of an unborn twin.*

A: At the same time in Alexandra's house same room another story starts

> *'The little prince was pale with anger, for millions of years flowers have been growing thorns and for millions of years sheep have still been eating flowers, and is it not worth trying to understand why they do go to such lengths to grow thorns which are of no use to them?'(The little prince, Antoine de Saint- Exupéry). We are all sheep flowers, we eat and being eaten.*

E: I bet you are already asking yourselves why this story should be told. If you are optimistic you may be wondering what new things the authors will reveal, and if you

are a pessimist you may be anticipating 40 minutes of Power-Point tedium followed by a luke-warm cup of tea.

A: The stories are followed by note pages that reflect upon our thinking and link our stories with theoretical referenced texts.

> *This piece is a metaphor for collaboration. I used the idea of sheep flower as a metaphor for the collaboration process. We all have thorns to protect ourselves but it is inevitable to be inspired by others and give inspiration to them. In our turn we are sheep taking from others even though they have thorns.*

E: We value, rather than problematise the difficulties of communication and mutual understanding and the constant flux of our own conception of the project, and indeed, of the book form itself. Alexandra and I have been doing this intensively for the past few months - living *cheek by jowl* as they say, with only six inches of London Brick between us.

A: We enter each others house only to leave our response to each other's story. For example, I am responding to Eleanor's first story .

> *This is a voice from the flat next door. I am not a human; I am just a utopia machine, a placebo for my neighbours. I am helping them to hear their thoughts; they justify them through my existence. I might be an artificial pulse for the person living on the right of my flat, something completely different for someone else. I only wish there was another machine elsewhere, to hear myself ... the machine.*

E: it is about the process of collaboration, the push and pull, the acceptance & the resistance, the learning and misunderstanding. I like it when we accept our differences as well as identifying our similarities

A: Each of us should comply with the rules of the other's book. We set borders built walls and made compromises. Tight structures and territories were finally abolished to give birth to a wall-free collaboration. The rules were set from the very beginning raising worries about borders.

E: Have I understood Alexandra's instructions? Will
she the rules escalate in complexity like the increasingly surreal rules of a tyrant? No blue ink on Wednesdays etc'

A: The collaboration is fundamentally processual in that we are engaged in *thinking through doing*, generating a dialogue that interrogates and connects both our theoretical and practice bases; As such we would frame ourselves as *artist researchers*

E: In keeping with the complex and multi-faceted meanings the notion of research by practice evokes, and as evidenced by theorists of research and practice such as Graeme Sullivan, Paul Carter, Barbara Bolt and Henk Slager.

Room Two

> *Room 2 is testimony to my rocky position. It is a room so blank as to form an anti-room. Matter collapses in room 2. It resembles a waiting-room but it's rarely witness to anything more substantial than a lingering dread.*

[Reverb sound]

E: Listen to that – how room two would sound if the same book fell from the same ladder. It didn't actually fall - that would be stretching a point too far. But the model serves a purpose;

A: At the same time, writing about my room 2, incidentally or rather intuitively, I am also speaking for blank spaces deleted memory, blank spaces and falling books, placed in our shared past, a library space.

> *Room 2 is a room of 200 words. It is the room where I delete my memory. I do that quite often but I have to refill it again.200 words are not enough to fill a deleted mind, so i had to find a way to fit more words in a 200 word room. This is the reason that Room number 2 is a library. Memory deleted, the dash of my mind goes on and off. The only thing remained is diving in the alleys of the books. Sleepwalking guided by the books numbers, I feel like a blind mouse guided by the book voices. I have to put them all in place otherwise I will be punished. Sometimes I put them in wrong place on purpose to separate them from their friends and family. They are suddenly between other books with different interest; they hesitantly talk to them. When they return to their right selves they have new stories to tell. Certain books fall all the time in my head, they want to fill my mind with words, they scream, read me you fool...but i am just blind mouse.*

E: Sorry to hark on about George Polya again but the point of the impulse response, (or reverberation) is to 'express certain relations which are common to the two systems of objects' we are attempting to compare, that is Room 2 in my flat and Room 2 – in my neighbours flat, which is the uncanny mirror image of my own home, though it contains different objects and different atmospheres. But we are also analogising two subjects: Alexandra and myself or the characters Kay Fairborn

and Elizabeth Cho. As Professor Polya put its: 'The analogy of these systems consists in this community of relations' (37). Building a community of relations has been the architectural foundation for the *Phi Books*, to find our path and place, materials and textures, and initially the correct proportions with which to model the project. If you are lost I am performing the books accurately, if you are not lost I have simplified this project to an unhelpful degree.

A: Topics of identity through narrative have already been initiated. Rooms 1 and 2 whisper secrets about our different family environments, and how those shaped our collective identity.

E: 'An Englishman's home is his castle. The attitude I have to my own home seems stereotypically English, it's a neurotic fortress of insulation'

A: In my family we all lived together as a big team.

> *Being in a very vivid family environment full of relatives, voices, rooms crammed with beds, big table to fit everyone, many plates and cups, it is out of question to have your own space. You have to share, give and be quiet. You gain the information like the library does by being quiet and holding the information concentrated. You are becoming invisible and you take some space without asking, without screaming and demanding. Gaining space as a family tactic. A purple fox has just stolen n apple from a brown squirrel.*

Room three

[Reverb sound]

E: The algorithm is apparent here as a visceral, embodied experience, it enters your ears and agitates the finest hairs, the astute among you will realise that room three is three times larger than room one. *Room 3 resembles a shabby bed-sit with a hazardous gas fire and squalid cooking facilities.*

A: Room 3 is a room of 300 words. Room 4 is a room of 500 words. Room 5 is a room of 800 words. Room 6 is a room of 1300 words.

E: The algorithm we have deployed defines the 'volume' for each section following the Fibonacci sequence yielded from the architecture of the *Phi* houses, or *mise-en-scène, for* each story reflects the proportions of the fictitious rooms, and thus the progression of the books encompasses the irrational mathematical constant of the golden (or *Phi*) ratio, which is approximately 1.6180339887. The so called *irrationality* of the infinite sequence lies in the fact that it cannot be counted and is therefore beyond the imagining of human subjects. The Fibonacci sequence yielded from the sides of the rooms defined within the golden rectangle schema exemplifies a recursive and perpetual form of regeneration, in which all definitions reduce to a

base case[1]. Despite the reassuring clarity and solidity of this schema in room four I wrote:

> *It's clear my attempts to dissect room 4 rationally, along established geometric ratios, are not helping. I am more befuddled than ever. My thoughts are an unstable compound of second-order translations and miss-hearings.*

E: Room Four.

[Reverb sound]

E: A book falls from a ladder; it lands with a sharp crack like a whip or a firecracker. The book is bursting from its bindings; it contains many different sheets of drawings, notes, collages, found objects, messy pastel pages and loose sheets of transparent papers. Despite its chaotic appearance the briefest examination of the book reveals an inherent structure that will be familiar to many people.

A: The books often tell stories about our individual research interests. Through the chaotic drawings and poetic words we built structures to theorize and think through narrative and making. Room number 5 for example hosts the story of the table to express my thoughts about authorship in design process using food as a metaphor. The literature for my research is based on the ideas of death and return of the author of Barthes, Foucault and Deridda (Burke,1998); they are also based on postproduction ideas about remaking (Bourriaud, 2002).

> *'The room where the food is prepared is the most creative room, where the food is being made and eaten. It takes a lot of fantasy to get that right. Furthermore, it takes a lot of talent to enjoy your food and even more to share it…*

> *Preparation and re-making*
>
> *I always array all my ingredients on the table and prepare my meal, in front of my guests. I do not believe in secret recipes. This is the reason everything happens on the table, so everyone can see what I am doing. I particularly enjoy when someone tries to repeat my recipe. I think that this is the whole point and success, to spread your recipes and see how other people are remaking them. (…) I would be*

---

[1] Ignoring the seed values, each remaining number is the sum of the previous two or $F(n) = F(n\text{-}1) + F(n\text{-}2)$, for integer $n > 1$. Both the golden section and the Fibonacci sequence have been used in numerous design processes, the myth exists that it was used to establish the proportions of the Parthenon in Athens (though this is often disputed) and also to design Stradivarius violins. The composers Bartók and Debussy also reputedly used the ratios as compositional determinants. Agents A and E were drawn to the historical continuity of this schema, arguably to bolster their sense of having an *aesthetic provenance* despite their otherwise *arriviste or* outsider status as artist-theorisers.

happy if they make the effort to remake the food and I would be grateful if they let me taste it. I would be satisfied if they appreciate that their food is different and let other people see how they made it.(…) Even a clever cat can prepare the same recipe, but the result will always be different.'

[Reverb sound]

Room 5

E: I enter room five, but things aren't much clearer in there either:

> *The room the door opens into is plain and uncluttered, there's a table, two chairs. An empty white dinner plate glows at the centre of the table, an unlit and unused night-light sits in a glass saucer beside the plate. An old-fashioned tape cassette player is also on the table. It looks in many ways like room 5, but none of my furniture is here. I don't recognise any of these things*

A: The tape recorder was an artificial voice. A voice that made us wonder about our identity. That made us unable to recognise ourselves. We have become something different through the process but still not similar to each other.

> *There was something familiar in the voices' tone. Something very personal. It was not me but it was my performing self. I know…now I know, now I remember. This is it. The first voice was me performing. It was like back then when I was a child, I was changing my voice to pretend I was my brother, my teacher, an airplane, a basket, a silent piece or a screaming plate of grapes.(…) I remember that voice changing the names of my relatives, creating fictional characters(…). This voice was the one transforming everything into something else. She was transforming me to something else too, she was making up new dialogues and thoughts. She was using mottos from the TV and comics. Was that voice mine? Were those thoughts my own?'*

> *'I am the voice of the book you are writing on, your thoughts belong to me, you are part of the white pages, plain material, ink and paper, you belong to everyone that holds me, you do not exist on your own. I am the carnival, I am what others see, I belong to everyone and you belong to me*

E: Was there room for such confusion in this project? How might we deal with the fuzziness and chaos of our own practices, should we ignore them, suppress or work with these disturbances? Alexandra was already beginning to show signs of rebellion against her own *a priori* structures, and I was also weary of making my work an illustration of theory to be swept up in what Barbara Bolt describes as the 'totalisation of theory':

> Theorists or logicians of practice tend to approach the task of theorising practice as a dressmaker approaches the task of making a garment. Using theoretical schemas or patterns, shapes are "cut out" from the continuous flow of practices. These shapes are inverted and then become metonymic[2] for the practices they purport to describe or explain. The part becomes the whole. In the totalisation of theory, Bourdieu claims, the "fuzziness" of practice is replaced by the demarcation of semi-academic artefact. (Bolt, 2004:4)

And in the delineation of this semi-academic artefact the unruly truth of practice is, Bolt observes, in danger of being all but negated, including our 'understanding of the art work as a process' (5).

Room 6
[Reverb sound]

E:

> *Elizabeth (or is it Alexandra?) is Hoovering. While my own unit makes its babyish gurgling sounds the droning machine next door is knocking against the adjoining wall in room six, over and over, pushing at the skirting board, as if Elizabeth/Alexandra is trying to expand the territory of her own room, attempting through force to push the walls back towards me.*

The force that I could feel through the walls of my own deterministic structures was uncertainty, Gaver et al (2004) describe this 'pervasive sense of uncertainty' (2004) in positive terms, acknowledging the value of 'play, exploration and subjective interpretation' (1), particularly in response to the limits of our knowledge. In the

---

[2] 'Metonymy is a figure of speech in which one word or phrase is substituted for another with which it is closely associated, as in the use of *Washington* for *the United States government* or of *the sword* for *military power.*'
Available at http://www.thefreedictionary.com/Metonymic Accessed 19/08/09

context of such an intensive collaboration as that which we engaged upon in producing the *Phi Books*, it seems right to acknowledge and perhaps even to capitalize upon the limits of our mutual understanding, exploration, is after all, about entering unknown territories. In my relationship to the *Phi Books* project the unknown territory was both the practice and the inter-subjective, creative, engagement with Alexandra. In a strong sense our subjectivities, like the book form itself are also medium specific elements within this project.

A: By the time we reached room six, I had already instigated a full scale rebellion against the phi ratios, bursting out of their numerical constraints and inviting readers to do the same by writing their own stories. I felt that the story should be at the same space with the theory, as narrative writing is next to referenced text. I went back to previous stories and draw, filling the void space; I was a rebel, I wanted to celebrate that. Eleanor joined in the rebellion by reverting to code, which is, of course, a type of language,. At the same she wrote in my territory, tunnelling into one of my rooms, and leaving words as provocations. She used stardust in her illustrations and these specks of shiny little dots where transferred into the whole book. That was the collaborative contamination. The walls were built to be broken down, when we felt that our rules were well established and not needed anymore. We loved both books equally.

Conclusion

In light of our recognition of the inadequacy or absence of models for theorising our creative research, we should consider now in conclusion the following orthodox academic questions:

- How to evaluate this project?
- How to 'generalise' it?
- What are the most important consequences of the project?
- What advances in knowledge did we make?

In answer to these questions we draw upon our experiences of both Human Computer Interaction and arts practice, in which *networks of validity* as James McAllister calls them are analogous to scientifically validating networks or laboratories. James McAllister boldly states that artworks do 'contain knowledge about the world' (McAllister in Slager, 2004:10) But, as he points out the networks of validation artists experience include other artists, 'galleries, curators, critics and so on' (11). McAllister suggests that 'communication of an artwork would also count as an empirical success' (12) but that research does not consist of 'think-pieces to accompany works of art or exhibitions. Rather the research exists in the works of art themselves' (12).

One of the consequences of this project has been the questions we have generated, such as:

- What is a book?
- Is the book form *performable*?

- Can books be written by humans via methods and procedures more familiar to computation?
- How can artists communicate openly with each other during collaborative processes?
- How do we generate and disseminate expansive ideas while maintaining some degree of narrative coherence?
- How can narrative writing be used as a methodology for research projects?
- How making in conjunction with narrative may lead to design innovation?

Stephen Wilson states in (1996) that we contribute to research by defining new questions, but also, at times, by 'using systematic investigative processes to develop new technological possibilities or to discover useful new knowledge or perspectives' (Stephen Wilson, 1996: 7). The P*hi Books* may be framed as a technology[3] or *craft* and *saying*, to revert, with Alexandra's permission to the Greek origins of the word, but also, in the case of the *Phi Books* a system and a method of organization, albeit a method that was embedded with the productive possibility of its own destruction. Indeed the possibility of destroying our own methods might be framed as an aspect of the *Phi Book* methodology*, or ecological intersubjectivity,* which, to quote Graeme Sullivan 'acknowledges that the self and others are reflective and reflexive beings. This suggests that meaning is not contained within a form itself, say a person, painting or a poem, but exists within a network of social relations and discourse' (Sullivan, 2005:43), to paraphrase Paul Carter, we embrace a system that participates in the world's complexity rather than eliminating it (Carter, 2004: XII).

Though the methods we used in producing the books are in part reproducible, this has not been my own goal, 'generalization, repeatability, and quantification' (Slager, 2004:2) as Slager states are not the characteristic qualities of arts research, rather 'artistic research is directed towards unique, particular, local knowledge' (2), but its singularity and situatedness should not negate its value or status as knowledge.

In the complexity of interacting with another writer, we resorted to visual, non-verbal models as a heuristics for gaining insight into our own anxieties about collaboration, in particular the extensive non-determinism of working inter-subjectively. These models have represented a significant break-through in the context of my own research, in which spatialising the book form has opened up new areas of investigation. The models may be seen as an epistemic shift but not an opposition to other modes of generating knowledge; they have also engendered deeper thinking about the relationships of geography to language and of the possibilities for performing the book form.[4]

The *Phi Books* project has illuminated naturalised, and we should add, internalised notions of what Bill Gaver and Phoebe Sengers describe in relation to HCI as 'single, specific, clear' (Gaver and Sengers, 2006 1) interpretations of what systems are for and 'how they should be used and experienced' (1), this recognition has enabled us to step away from the 'presumption that a specific, authoritative interpretation of the systems we build is necessary, possible or desirable' (1), and that the expectation

---

[3] Technology or "*technologia*", "τεχνολογία" — "*techne*", "τέχνη" ("craft") and "*logia*, "λογία" ("saying").[
[4] For example the walks I have choreographed for the South Bank area which enact historical, geometric modes of book design.

for this in others – including academia can be countered with credible epistemic tools and techniques.

To conclude we quote from Stephen Wilson's paper *Art as Research*, though it was written over 13 years ago it seems as prescient as ever, serving as both a warning and as an encouragement to unorthodox forms of research practice in the arts:

> Valuable lines of inquiry die from lack of support because they are not within favor of particular scientific disciplines. New technologies with fascinating potential are abandoned because they are judged not marketable. Our culture must develop methods to avoid the premature snuffing of valuable lines of inquiry and development. I believe the arts can fill a critical role as an independent zone of research. (Wilson, 1996:1)

[Finishing sound]

Technical notes:

Impulse response modelling was achieved via the Voxengo Impulse Modeller; Eleanor also recorded a book falling then imported it into Cubase where the SIR VST native audio plug-in used the impulse response files to generate an authentic reverberation for each room in the Phi house. The Processing code in story 6 is based on a section of a language generating program from Eleanor's PhD project *South: A psychometric text adventure.* We both used parts of our individual PhD research within the books. The books were a chance to discuss our research fields and filter them through narrative. We cannot separate this project from our greater research. 'Creative knowledge cannot be abstracted by the loom that produced it. Inseparable from its process, it resembles the art of sending the woof-thread through the warp.' (Carter, 2004, p.1). The installation is a physical map of the Phi books's neighbourhood. It is very important that we placed the books in space representing houses. Around the books there are piles of papers, representing other houses that invite the audience to write their own stories, as Alexandra does in the room 6. The piles of paper shape a constantly changing scenery as people add or take papers from the pile.

Bibliography

Antonopoulou, Alexandra and Dare, Eleanor (2009) **Phi Books, Book A**, artists' book.

Antonopoulou, Alexandra and Dare, Eleanor (2009) **Phi Books, Book E**, artists' book.

Bolt, Barbara (2004) **Art beyond Representation**, I.B Tauris.

Bourdieu, Pierre (1990) **The Logic of Practice**, Polity Press.

Bourriaud,.N. (2002), *Postproduction: culture as screenplay : how art reprograms the world,* Lukas &Sternberg, New York

Burke,.S. (1998), *The Death and return of the author : criticism and subjectivity in Barthes, Foucault and Derrida,* Endiburgh University Press, Edinburgh

Bury. S (1995) *Artists' Books: The Book as a Work of Art, 1963-1995,* Scolar Press.

Carter, Paul (2004) *Material Thinking,* Melbourne University Press.

Francé, Raoul, Heinrich (1920) *The Plant as an Inventor,* Kosmos, Stuttgart.

Polya, George (1957) *How To Solve It,* Doubleday Anchor.

Sullivan, Graeme (2005) *Art Practice as Research,* Sage.

Papers:

Gaver, Bill, Sengers, Phoebe (2006) *StayingOopen to Interpretation: Engaging Multiple Meanings in Design and Evaluation,* Proceedings of the 6th conference on Designing Interactive systems (2006), pp. 99-108.
Available here: http://portal.acm.org/citation.cfm?id=1142422
Accessed 20/08/09

William W. Gaver ,Andrew Boucher, Sarah Pennington,   Brendan Walker (2004) *Cultural probes and the value of uncertainty,*
Available here:
http://portal.acm.org/citation.cfm?id=1015555
Accessed 20/08/09

Slager, Henk, (2004) *Methododicy,* Lier en Boog, Vol. 18, No. 1. (20 February 2004), pp. 12-31, available here: http://www.citeulike.org/article/26172
Accessed 17/08/09

Wilson, Stephen (1996) *Art as Research*
Available here: http://userwww.sfsu.edu/~swilson/ Accessed 20/08/09