Para-design: Engaging the Anomalous, a design research workshop to investigate paranormal phenomena through a series of location based studies.

Cocchiarella, Fabrizio*[a]; Drinkwater, Ken[b];

[a] Manchester Metropolitan University, UK
[b] Manchester Metropolitan University, UK
* f.cocchiarella@mmu.ac.uk

An investigative workshop entitled 'para-design' (paranormal design - thinking beyond or outside of 'normal' design scenarios) explores new territory for design practices. Through examining the degree to which parapsychological belief influences perception of the designed environment, research brought together the anomalous with product design in order to explore design applications. In this context, the term paranormal refers to the conceptualization of paranormality as a phenomenon that violates the fundamental scientifically founded principles of nature.

Specifically, Product Design students investigated paranormal perception. Students explored locations and appraised environmental conditions/unusual experiences. A self-report measure included feelings, experience and perception questions. Following investigation, respondents completed questions assessing belief and perception in each location. Typically, locations contained many classic paranormal settings i.e., cold spots, dark/claustrophobic, damp, drafts/chills etc.

Specific high perceptual scores were associated with an increased level of perceived haunting and an increase in paranormal belief. Findings suggest that practice based studies through 'para-design' shapes intention, where paranormal belief influences perception of the designed environment. Field-testing generated design proposals to produce paranormal products. These became the centrepiece of an exhibition where interaction with each product revealed how to investigate the anomalous. Specifically, the combination of para-psychology and concept of para-design revealed how design can elicit, engineer and channel perceptive experiences of the paranormal.

This research outlines the significance of para-design. Through the translation of subjective and analytical responses, new opportunities for design were investigated that explore personal perceptions to enable the design of tools that facilitate and respond to paranormal phenomena.

Keywords: Product design, para-design, paranormal belief, practice based studies, perception, investigation.

1. Introduction

Students studying Product Design at ArtEZ Institute of the Arts in Arnhem, in the Netherlands, took part in a design research project to investigate the design of spaces and paranormal experiences at two Dutch locations. Research consisted of a series of location-based investigations to garner perceptions of the anomalous. Specifically, through self-report measures, students explored locations, noting down any unusual sensations/phenomena on a map provided, followed by answering a series of questions examining feelings, experiences and perceptions. Respondents noted down unusual experiences alongside their appraisal of the environmental nature of each location i.e., characteristics, feel, temperature etc. The notion was that students would engage with paranormal phenomena in order to develop a brief within their design practice.

The paranormal in this context refers to “a proposition that has not been empirically attested to the satisfaction of the scientific establishment but is generated within the non-scientific community and extensively endorsed by people who might normally be expected by their society to be capable of rational thought and reality testing.” (Irwin, 2009).

The paranormal material gathered from both the Panopticon prison and from the spiritual centre at Harmonia, place the perceived experience and design brief within specific practice based studies, exploring the concept of ‘para-design’ (paranormal design - thinking beyond or outside of ‘normal’ design scenarios). This allows examination of the degree to which paranormal belief effects perception of locations, and then how to generate design scenarios for new environments.

Students employed field research (fieldwork) using a spontaneous case approach (Parsons, 2018), which allowed them to directly observe and explore two locations (Harmonia & Panopticon). This method is concerned with data collection and verification, whilst generating ethnographic and observational data (Burgess, 2002). This in turn, created discussions on how design can be used as a tool to elicit, engineer and channel perceptive experiences of the paranormal. Specifically, field research provided students a way of studying each location within its "natural" setting. Therefore, students collected data using observational techniques and evaluated findings which generated theoretically rich data (Baxter & Chua, 1998; Johnson 1990).

Experiences helped define and translate subjective and analytical responses into the development of new opportunities for product design to identify factors that contribute to the perception of the anomalous. The designed experiences created through the workshop allowed investigation into how design facilitated the exploration of personal belief, and in so doing, generated design scenarios that related to the environment and language of tools that influence behaviours in response to paranormal perception. Design-led approaches are useful and widely used in experimentation, and represent a method to test existing theories and new hypotheses (Bucolo & Wrigley, 2012).

Specifically, design in the form of para-design explored the ontologically flooded territory of interpretations of experiential paranormal phenomena in order to innovate design territories. This provided a workable framework to consider opportunity for design to engage with personal accounts of experiences and belief (Fort, 2008). In this context, haunting/ghostly experiences may derive from internally perceived phenomena (e.g., sensations of a presence) (Laythe & Owen, 2012). However, the current research focuses on the value added by para-design in terms of exploring the rationale for possible interpretations of paranormal phenomena and how this leads to a new design language.

Current academic design practices often insist on a reductionist approach, reducing more complex understanding into simpler components (Sawyer, 2002). This over-simplification of human behaviour and cognitive processes may make experiences more accessible, although a reduction in one’s experience to the purely physiological often explains away unusual experiences as merely delusional (Hunter, 2018). The current research utilises a more open-minded (non-reductionist) approach allowing a more experimental analysis of the experience, generating innovative practice between areas of design and parapsychology. This mindset to explore notions of design beyond normal

physical parameters expands the scope for design to embrace ‘new frontiers’ of design language. It’s through this experimental mindset that the para-design workshop facilitated discussion between psychologists, designers and people that shared an interest in paranormal phenomena developed through site visits and field research. This discussion produced interesting perspectives on possible applications for the design of experience.

2. Engaging the Anomalous through design research

On the first day of the workshop students investigated notions of the paranormal through discussion and debate with the research team. looking at the psychology of the paranormal and how this translates through the design of experiences students then used the afternoon to rapidly model ideas for experiential scenarios in paper and card, as shown in figure 1. These prototype situations and devises were used to illustrate potential ways to filter the perception of paranormal experience.

Figure 1. For viewing ghosts caught in peripheral vision (left) Light and shadow installation prototype (right).

For the second day we went on a day trip and spent the morning at Stichting Het Johan Borgman Fonds in Odijk to view the 20th-Century Dutch academic parapsychology, spiritualism and mediumistic art collections. Psychologist Dr Wim Kramer and Lotje Vermeulen talked with the students about the archives and current research, explaining how the archives had accumulated over the years and also demonstrated artefacts used to make contact with the spirit world. These ‘spiritual products’ gave valuable insight into the design of objects to facilitate paranormal perceptive experiences.

Through analyzing the design of the objects and packaging used to popularize the idea of engagement with the paranormal through games/ artefacts such as Ouija boards, and trumpets to capture the whispers of spirits in seances, as shown in figure 2, students had the opportunity to situate design thinking in an experimental context and through empathic engagement learn new ways of relating the design of objects to facilitate a particular tailored experience that goes beyond conventional design practices.

Figure 2. Ouija board (left) and Aluminium Trumpet (right)

After exploring the archives in Odijk we visited the Harmonia Spiritualist Headquarters in Utrecht, where we conducted a building study to test the environment from which the objects held in the archive would have been used to filter anomalous phenomena, as shown in figure 3.

Figure 3. Harmonia Utrecht (left) and Room setting at Harmonia (right)

The design of the study was to use a questionnaire to structure the collection of data examining paranormal belief and individual difference. Specifically, this investigates how paranormal beliefs affect general perceptions of space. This study explores how analytical (rational) and experiential (emotional) factors affect perceptions of the physical and the paranormal (Epstein et al., 1996).

Students completed a questionnaire booklet containing psychological and parapsychological questions, cognitive and perceptual items as well mapping experiences on a plan over the eight locations. Small groups of students (2-3 in each) explored locations documenting unusual phenomena, feelings, sensed presence etc. Measures included the Australian Sheep Goat Scale (ASGS) (Thalbourne & Delin, 1993), The Haunting sub-scale (8-items) (Drinkwater et al., 2017) and

the Survey of Anomalous Experiences (SAE) (Irwin, Dagnall & Drinkwater, 2013). This allowed collation of psychometric data that would be useful in quantifying personal beliefs alongside experiential perceptions within specific locations.

The research generated paranormal narratives of specific experiences (Harmonia, Utrecht and the Panopticon, Arnhem), in line with Eaton, (2018) who developed place based meanings from specific interpretation of percipients cultural knowledge, and Wiseman et al. (2002) who explored haunting at Hampton Court Palace. In this context, place based meanings or personal experiences from within unusual or unfamiliar places generated interpretations of phenomena triggered by sensory cues (Eaton, 2018). The current study examined pre-existing cultural representations/perceptions that influence interpretation of specific haunt-like experiences i.e., the door creaking, unusual smells, unfamiliar sounds/acoustics, sensed presence etc. (French, Haque, Bunton-Stasyshyn, & David, 2009; Davies, 2007).

On the day after our paranormal study in Utrecht students had the morning and afternoon to investigate ideas through making prototypes. These tests and conceptual mock-ups helped to model experiences from the building study into objects that either simulated phenomena through light, through exploring cultural notions of superstition or objects to act as conduits to esoteric forces as proposals for new types of experiential products that connected the physical world with psychological interpretation.

After a morning of prototyping we conducted another study at nearby Arnhem Koepelgevangenis, Panopticon Prison. The recently retired building was excellent inspiration for investigating a different type of perceived haunted space. The layers of history and stories of strange experiences added a new perspective to the students approach to the project. Through another building study, students were able to compare perceptual experiences with the day before and analyze the different design languages employed in diverse places.

The spiritualist building in Utrecht was a place to host seances and friendly contact with the spirit world where as Arnhem Panopticon prison was a place where paranormal phenomena occurred as a consequence of an oppressive environment. The Panopticon as a piece of architecture further illustrated a design language that was employed to excerpt control, to dictate behavior and mentally affect its inhabitants through punishment, illustrated in figure 4.

Figure 4. Arnhem Koepelgevangenis (left) and one of the cells used in our study (right)

The building studies helped to reinforce the value in experiential research. Often design students reference knowledge through secondary sources, through experiencing real designed situations

they are able to assess/analyze their own perceptions to these spaces while generating a connection to how design can facilitate and trigger perceptive experiences.

The penultimate day was the students last full day of prototyping, moving ideas forward into materials and 3D development. This allowed time to focus and refine conceptual ideas influenced by real experiences. The final day showcased prototypes in an exhibition in the afternoon (a sample of projects in figure 5 & 6 below). This provided an excellent finale to a week of intense presentation, investigation and examination. Students exploring the psychology of experience tested design concepts (established within an anomalous framework) and designed products/scenarios to better understand and interpret the paranormal. The workshop facilitated an inspiring week of investigating belief and personal experiences of parapsychology into designed scenarios whilst utilizing methods that materialized creative responses within a paranormal context.

Figure 5. Device using mealworms to spell out messages from spirits

Figure 6. Super Stitious Solutions – Products to protect against inadvertently walking under ladders, protecting mirrors from breaking and a knock on wood device to wear around the wrist.

3. Method

3.1. Participants

Design students (7 female and 6 male) from ArtEZ Institute of the Arts in Arnhem took part in the study. Ages ranged between 18 to 26 years.

3.2. Procedure and Ethical Considerations

A questionnaire booklet was distributed to the students that comprised 6 sections of questions and a plan/map of each location. Instructions at the beginning of the questionnaire booklet informed respondents that the study was concerned with exploring space and investigating the anomalous. Instructions informed respondents that there was no time limit for completing the questionnaire.
Prior to exploration of each site, respondents completed Section 1 current feelings and emotions (10-items), which established general levels of emotional state (e.g., indicate to what extent you have felt this way in the past week; cheerful, happy, sad etc.).

During each visit, respondents examined 8 sites and completed Section 2 of the booklet, which examined level of intensity (I) (8-items) and emotional content (E) (8-items). Students were instructed to note down the specific locations where they noticed or felt anything unusual. Participants marked these as either I or E on maps provided. A 1-10 point Likert scale allowed participants to rate their level of each construct.

Sections 3 and 4 comprised 8-items examining belief in the paranormal (MMU Sub scale Haunting) and 6-items examining emotion based reasoning. Section 5 included 10-items that asked participants about their visit whilst section 6 asked participants to provide basic demographic information (age and gender). This entire procedure was repeated for both locations: Location 1 - Harmonia Spiritualist Headquarters in Utrecht and Location 2 - Arnhem Koepelgevangenis, Panopticon Prison.

A follow up interview with each of the 8 respondents/students took place to establish the nature and perception of each location. Each interview transcript was anonymized assured and suitable pseudonyms were generated. Themes frequency and type are presented in tables 6 and 7 below.

Finally, researchers presented feedback about each visit, which was used to guide/shape the design process for students undertaking the product design workshop. The exploration process allowed students to gather experiential information with which to shape individual design projects.

Informed consent was gained prior to each visit, and this advised participants of their right to withdraw at any time during participation. The current study obtained full University ethical approval.

3.3. Measures included

Current feelings and emotions (10-items).
These items ascertain how each respondent feels emotionally. They indicate to what extent they have felt this way in the past week using a 5-point Likert scale e.g., 1. Cheerful

1	2	3	4	5
Very Slightly	A Little	Moderately	Quite a bit	Extremely

Level of intensity (I) (8-items) and emotional content (E) (8-items) using a 10-point Likert scale. For Intensity, the scale measures between low (1) and high (10). For emotions, the scale measured between negative (1) to positive (10). Respondents mark either an (I) or (E) at each of the eight locations where they feel intensity and emotion.

A sub scale of the MMU PBS (Haunting) 8-items (PhD thesis - Drinkwater, 2017). This sub scale measures belief in hauntings. The subscale derives from a full scale MMUpbs (a new measure of paranormal belief 50-items – Drinkwater, 2017), which has been developed from an amalgamation of new items/questions, and those items loosely based on the existing items from within the (MMUSPB) (Foster, 2001).

Items were presented as statements (e.g., “Spirits of the dead can be seen by the living.” and “poltergeists exist”), which are measured on a seven point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Emotion Based Reasoning, EBR (6-items). These are taken from the Cognitive Biases Questionnaire (CBQ) 30-item (Peters et al., 2010). The CBQ is a self-report measure of reasoning biases known to be associated with the formation of psychotic delusions. Each response is rated on a 3-point scale (1 = absence of bias; 2 = presence of bias with some qualification; and 3 = presence of bias). The EBR in this context assesses the cognitive process by which a person concludes that emotional reaction verifies that something is correct. Scores on each subscale are computed as the sum of ratings provided.

Visit appraisal containing 10-items. These included ‘Based on this visit do you believe that the building is haunted?’ YES/ NO or, ‘Did you have a paranormal/ghost-related experience this evening?’ YES/ NO

4. Results and Analysis

Looking at the results in the tables below it is possible to examine how students felt in different scenarios. There were significant positive correlations found across location types (see table 2), sense of experience (table 4), while haunt like perception revealed significant differences between locations at all sites (see table 5). Perceived intensity revealed no significant correlations (see table 3).

4.1. Descriptive Statistics

Descriptive statistics are presented for the current study and are given in table 1 along with the crombach alpha coefficient values both versions of the Haunting subscale of the MMUPbs (L1 Harmonia; L1 Panopticon). Cronbach’s alpha (α) assessed the internal reliability of the subscale measures (facets). All facets of the MMUpbs proved psychometrically acceptable: L1TOTALHauntings (α = .96) and L2TOTALHaunting (α = .95).

Measures include FE (Feeling & Emotion), Intensity (I), Experience (E), and Emotional Thinking (ET) which assess two locations: Harmonia (Spiritualist Church) and the Panopticon Prison.

Table 1. Descriptive Statistics for Location Totals

n=8	M	SD	Range	Min	Max	a
L1FETotal	26.75	2.25	7	23	30	
L2FETotal	23.75	2.82	8	20	28	
L1ITotal	30.25	9.19	27	16	43	
L2ITotal	32.88	8.56	20	24	44	
L1ETotal	34.63	7.93	27	21	48	
L2ETotal	32.38	6.39	18	24	42	
L1TotalHaunt	28.50	11.49	34	8	42	.96
L2TotalHaunt	25.25	10.53	34	8	42	.95
L1ETTotal	13.00	1.07	3	11	14	
L2ETTotal	12.63	0.92	3	11	14	

(Key: L1 = Harmonia, L2 = Panopticon, FE = Feeling and Emotion Total, I = Intensity Total, E = Experience Total, Haunt = Haunting Belief Total, ET = Emotional Thinking Total)

Results revealed mean and standard deviation scores across both location L1 (Harmonia) and L2 (Panopticon): (Feelings and emotions prior to the tour. L1FEtotal *M* = 26.75, *SD* = 2.25; L2FEtotal *M* = 23.75, *SD* = 2.82. Intensity level: L1Itotal *M* = 30.25, *SD* = 9.19; L2Itotal *M* = 32.88, *SD* = 8.56. Perceived level of any experience (L1Etotal, *M* = 34.63, *SD* = 7.93; L2Etotal, *M* = 32.38, *SD* = 6.39. Belief in haunting, L1TOTALhaunt, *M* = 28.50, *SD* = 11.49; L2TOTALhaunt, *M* = 25.25, *SD* = 10.53, and emotional thinking, L1Etotal, M = 13.00, AD = 1.07; L2Etotal, *M* = 12.63, *SD* = 0.92) across both locations for each participant. Total scores for both location 1 and location 2 are presented in Table 1 above.

A series of paired sample correlations allowed further examination of location totals. Comparison across locations revealed the following results: Feelings and emotions prior to the tour (L1FEtotal; L2FEtotal) revealed a non-significant relationship (.729). Intensity level (L1Itotal; L2Itotal) during both visits revealed a non-significant relationship (.502). Perceived level of any experience (L1Etotal; L2Etotal) revealed a non-significant relationship (.117). Whilst, belief in haunting (L1TOTALhaunt; L2TOTALhaunt) (.004) and emotional thinking (L1ETtotal; L2ETtotal) both produced significant outcomes (.004). Mean scores comparing both L1 and L2 are presented in Table 2 below.

Table 2. Paired sample correlations for totals across both L1 and L2

n=8	Correlation	p
L1TOTALHaunt & L2TOTALHaunt	0.884	.004*
L1ITotal & L2ITotal	0.28	.502
L1FETotal & L2FETotal	-0.146	.729
L1ETotal & L2ETotal	0.598	.117
L1ETTotal & L2TTotal	0.875	.004*

** p < .05*

(Key: L1 = Harmonia, L2 = Panopticon, FE = Feeling and Emotion Total, I = Intensity Total, E = Experience Total, Haunt = Haunting Belief Total, ET = Emotional Thinking Total)

Looking at the reported total experiences across both locations (L1 & L2) respondents reported a significant difference between belief in hauntings and emotional thinking (See table 2).

Table 3. Level of Intensity

n=8	M	SD	Correlation	p
L1IO1	2.50	1.07	-0.285	0.494
L2IQ1	5.25	2.82		
L1IQ2	4.50	2.56	0.376	0.359
L2IQ2	3.63	2.45		
L1IQ3	3.63	2.07	0.389	0.341
L2IQ3	4.64	2.83		
L1IQ4	2.75	1.16	0.023	0.958
L2IQ4	5.13	1.36		
L1IQ5	2.88	1.96	0.168	0.691
L2IQ5	3.50	2.39		
L1IQ6	2.88	1.36	-0.479	0.229
L2IQ6	3.88	1.13		
L1IQ7	5.63	2.20	0.012	0.977
L2IQ7	3.50	2.67		
L1IQ8	5.50	1.77	-0.027	0.95
L2IQ8	3.38	1.51		

** p < .05*

(Key: L1 = Harmonia, L2 Panopticon, I = perceived intensity at 8 sites within each location)

Location comparisons (across level of perceived intensity) revealed no significant results. (See table 3 above). Looking at the reported frequency of intensity, the majority of respondents indicating that level of intensity did not differ between locations for all eight sites within both L1 and L2. (See table 3 above).

Table 4. Level of Experience

n=8	M	SD	Correlation	p
L1EQ1	2.13	2.47487	0.927	.001*
L2EQ1	3.63	2.32609		
L1EQ2	4.88	0.99103	-0.165	.70
L2EQ2	3.50	1.30931		
L1EQ3	5.63	1.30247	0.467	0.24
L2EQ3	3.25	2.05287		
L1EQ4	4.63	1.40789	0.31	0.46
L2EQ4	4.00	1.30931		
L1EQ5	4.63	1.50594	0.409	0.31
L2EQ5	4.88	2.6959		
L1EQ6	4.25	2.12132	-0.47	0.24
L2EQ6	4.38	1.68502		
L1EQ7	4.63	2.26385	0.204	0.63
L2EQ7	4.75	2.86606		
L1EQ8	3.88	2.41646	-0.652	0.08
L2EQ8	4.00	2.26779		

**p < .05*
(Key: L1 = Harmonia, L2 = Panopticon, E = Perceived experience at 8 sites across both locations)

Location comparisons (across level of perceived experience) revealed a significant difference across locations L1EQ1 and L2EQ1 (*p* = .001). All other comparisons between location 1 sites and location 2 sites revealed no significant differences (See Table 4 above).

Table 5. Location comparison for belief in haunting

n=8	M	SD	Correlation	p
L1HauntQ1	3.875	1.64208	0.826	.011*
L2HauntQ1	3.375	1.40789		
L1HauntQ2	3.50	1.69031	0.909	.002**
L2HauntQ2	3.25	1.48805		
L1HauntQ3	3.88	1.45774	0.952	.001**
L2HauntQ3	3.63	1.50594		
L1HauntQ4	3.88	1.80772	0.812	.014*
L2HauntQ4	3.25	1.58114		
L1HauntQ5	3.88	1.80772	0.776	.024*
L2HauntQ5	3.13	1.64208		
L1HauntQ6	4.00	1.60357	0.901	.002**
L2HauntQ6	3.75	1.58114		
L1HauntQ7	2.88	1.3562	0.883	.004**
L2HauntQ7	2.63	1.50594		
L1HauntQ8	2.63	1.59799	0.766	.027*
L2HauntQ8	2.25	1.48805		

**p < .05, **p < .01*
(Key: L1 = Harmonia, L2 = Panopticon, Haunt = Belief in Haunting for both locations)

Comparisons reveal significant differences for each of the eight sites across both location L1 and L2. (See Table 5 above). The majority of respondents reported that Harmonia (L1) is perceived as being more haunted than the Panopticon Prison (L2).

This relate to the actual students who explored both locations and their experiences in each location. This is meaningful as it forms part of their experiential research. The short measure for belief in Haunting between both locations revealed a significant difference, whilst they are simple t-tests comparing only mean scores, the score for the L1 = Harmonia vs. L2 = Panopticon (see table 5.) showed increased levels in belief in haunting. This is useful as it quantifies the environmental differences in differing conditions between the two locations.

In order to examine further the possible relationship between both descriptive statistics/results and participant experiences, an itemized table of themes (categories) revealed thematic categories that suggest an important relationship between personal experience, perception of site location and location dynamics. (See table 6 and 7 below).

Table 6. Themes and Frequency – Harmonia

Belief types and Frequency – **Harmonia**	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	
Respondent Pseudonym	Seance	Haunted / Ghosts	Sense of Presence	Conditions / Feelings	Heard Stories	Environ mental Factors	Para-normal Clichés	Sense of Reality	Total Frequency
1. Tracey	1	3		5	1	2	2		14
2. Michelle		1		4	1		11		17
3. Cath		1		1		3	3		8
4. Sophie	2			2		1	2		7
5. Mark				2		4	2		8
6. Robert				2		2	5		9
7. Mary	1	1	2	3	2	3	4	1	17
8. Abigail	2			7	1	5	2		17

Table 7. Themes and Frequency – Panopticon

Belief types and Frequency – **Panopticon**	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	
Respondent Pseudonym	Seance	Haunted / Ghosts	Sense of Presence	Conditions / Feelings	Heard Stories	Environ mental Factors	Para-normal Clichés	Sense of Reality	Total Frequency
1. Tracey			1	1	1	1	1	1	6
2. Michelle				2	2	1	4		9
3. Cath				2	2	6	2		12
4. Sophie				4	3	2	7		16
5. Mark			1			2	1		4
6. Robert			2		2		1		5
7. Mary				2		7	4	1	14
8. Abigail				6	2	1	3		12

Both tables above represent frequency of type of anomalous themes that emerged from discussing and examining transcripts for the eight respondents. Generation of themes is in line with the strategy recommended by Braun and Clarke, (2006). Each student shared his/her ideas, thoughts and feelings about both L1 (Harmonia) and L2 (Panopticon), and outlined particular facets, conditions and feelings that best designate architectural surroundings. These may relate to the paranormal and anomalous but outline the nature of each location in terms of perceived design space and architectural conditions.

Frequency of themes and responses reveals a rich data set that allows comparison with location description (see appendix 1 for map for both L1 and L2) and analysis of each room, building and its perceived environment, respectively.

5. Discussion

Previous research reveals that many people extensively believe in some form of paranormal belief (Blackmore, 1997, Drinkwater, Denovan, Dagnall, & Parker, 2017). Indeed, Gallup polls (2005) report that nearly three-quarters of American people (73%) believed in at least one or more type of paranormal occurrence (Moore, 2005). Specifically, extra-sensory perception (ESP) (41%), possession by the devil (41%) and ghosts (32%) appear to be the most prevalent. The present study therefore, examined two locations, which revealed significant differences between perceived environmental factors, building conditions and perception of haunt related beliefs (Drinkwater et al., 2017).

In accordance with research conducted by French and Wilson, (2007), percipients revealed classic paranormal clichés including; sudden changes in temperature, damp/dark environmental conditions, dizziness, historical stories and feelings that related to a sense of presence). This educates important questions about the taxonomy of what percipients believe to be the anomalous (i.e., what is, and what is not, considered to represent the paranormal) (French et al., 2009).

In this context, the current research reveals that haunt related perception is significantly higher at location L1 (Harmonia) suggesting that specific design qualities and or environmental qualities result in an increased perception of the paranormal. The current study explored this through two different locations (L1 and L2 Panopticon Prison), and revealed that respondents perception and belief is altered when conditions appear to be in keeping with their perception of the paranormal i.e., damp dark basements, old furniture, smelly rooms.

The study's findings are consistent with a general theory that the formation of beliefs especially those considered to be more anomalous are dependent upon prior experiences and conditions experienced at locations (Irwin & Watt, 2007; French & Wilson, 2007). Specifically both locations, while different in terms of their overall design shared some qualities i.e., have many shared conditions (cold, dark, damp), both made respondents feel that there was a sense of unseen presence, and generated numerous paranormal clichés such as, shadows, dark spaces, cold drafts, strange sounds etc.

Through translating the data collected its clear to see that the design of spaces alongside preconceived notions of the paranormal have an effect on how we perceive and understand experience. In exploring territory for design and the invention of innovative scenarios that effect our mental and physical connection with our surroundings, the synthesis of paranormal research and design thinking allows opportunities to investigate these subtle and imaginative links with the environments we occupy. What spaces are designed to do and previous stories of events that have taken place all play an important part in how we perceive these environments. Examples from interviewing participants about their experiences and how this linked to their perception of paranormal spaces.

At Harmonia, a place designed to host seances:
Michelle: The big mirror and the coat hangers with small faces were quite creepy. The cellar was the most typical horror space. The furniture was old and cracking.
The type of mirror, the old technique and black spots.. the frame and really huge it's almost a doorway to something else.

Abigail: The main room felt heavy. I sometimes in general have shivers in these situations or when in a big crowd of people. Sometimes my head feels warm and heavy. It's hard to say whether the space is doing this or something else. The air was dense/ thick. Feels like a presence. Similar to a paranormal experience I've had before.

At the Panopticon, a place designed to imprison people:
Michelle: I didn't have a feeling like it was haunted but I had a strong emotional response thinking about the people and their experience and what they must have felt like. Didn't feel scared but just an impactful place to see.

Abigail: It reminded me of a trip I went on to a concentration camp in Latvia. I remembered that experience and brought that to the prison which made the experience more intense.
The sound which the architecture created was a distinct feature. It adds so much feeling that could send you crazy. I could imagine people walking in circles hearing the echoes all the time.

Limitations in the sample size also must be acknowledged. Additionally, synergy between paranormal beliefs that may incorporate alternative explanations, as well alternative paranormal topics need further careful consideration to extend future design. Particularly, superfluities will further inform understanding of current para-design constructs that appear underpinned by paranormal belief generation and maintenance (Irwin, 2009). Anomalous beliefs therefore in this context are of importance, because the level of endorsement may feature directly because of prior experience; or, are part of the fabric within an environment, which directly affects personal interpretation of space.

The authors acknowledge that the size of the effects educed here is small and careful consideration of findings is needed. The workshop was exploratory and did not seek to establish pre-determined approaches in how to design paranormal products. It was an ideation workshop that was explorative and investigative. Confirming methods and variables will be the subject of definition in future studies exploring the concept of the paranormal in the context of para-design.

6. Conclusion: Para-design as a tool to explore paranormal phenomena

As a result of the workshop week and the investigations exploring phenomena through the lens of the paranormal, scenarios were designed that used product design as an interface to explore belief in paranormal phenomena through new experiential scenarios. Students translated site-specific research into new tools to articulate para-design thinking in the design of objects and experiences that link perceptions of the paranormal within designed artefacts.

Figure 7. Seeking advice from the Mediumship object for Dead Designers (left) and Through selecting a key that represents a 'dead designer' the user is able to select their preferred oracle and insert the key into the device that when turned presents 'words of wisdom' communicated from the designers spirit (right)

Figure 8. Mediumship Hand (left) and Shadow projections from paper forms (right)

Through analysing direct personal experiences explored through the workshop insights were drawn between people's beliefs and how this effects their interpretation of interior and architectural spaces. The process of the exploration as research inspired the generation of ideas and concepts to inform design thinking. Meaningful design was shaped around the paranormal and in reference to experiential scenarios from the study. Similar yet different environmental conditions trigger how we perceive places based on pre-conceptions and expectations in specific contexts (see French et al., 2009).

Through the site visits it has been possible to correlate participants pre-disposition to believe in the paranormal and experience of anomalous phenomena. Quantitative and qualitative methods through the two studies have helped to measure and document these experiences and frame an analysis of spatial experience that links the psychological and the physiological interpretation of an environment, providing interesting insights for design in the understanding of psycho-geographical (Bassett, 2004) and psycho-spatial encounters (Jung, 1959).

Through interpreting this research into new designed scenarios there is potential to further develop a new design ontology that explores experiences outside of 'normal' understanding. The engineering of space through designed environments has the potential to facilitate and mediate material experiences that explore the territory of paranormal phenomena through a new field of design research that deals specifically with the design of experiential situations that relate to engaging with the anomalous through Para-design. This is consistent with contemporary work examining the anomalous (Irwin, 2009; French & Wilson, 2007) (e.g. haunted locations), which has established associations between the designed environment through staged haunted experiential scenarios and its effect on wellbeing and behaviour (Annette et al., 2016). Exploring these in the specific context of our building studies has investigated potential to give insight into the future design of spaces related to paranormal experience through the outputs of the workshop.

In translating this study it is important to bear in mind there are different ways to make sense of knowledge through different approaches, both scientific and sensitive (Eaton, 2018). The scientific generally looking for a rational explanation to phenomena to be able to explain with a degree of certainty what was the cause of the paranormal experience (French et al., 2009). And the sensitive that interpret situations through personal belief and faith in either their intuitive ability to perceive spirits, or through the sharing of stories and therefore reinforcing the knowledge of the experience as a factual account to what has been experienced (Ironside, 2016).

Through exploring 'Sensations of the Ordinary' design is used as an interface to both embed meaning in everyday things, celebrate ritualistic/ routine actions and subvert/ influence/ change the way people live through tools that augment daily processes (Fukasawa & Morrison, 2007). Design has an opportunity to tune experience through material engagement that both stimulates physiological experience as well as probing the norm through metaphysical intervention. By rethinking and re-inventing scenarios that contribute to the everyday 'spectacular vernacular' (Parsons & Charlesworth, 2017) of design, objects and environments have the ability to embed critical commentary that inspire social dreaming (Dunne & Raby, 2013). They also engineer experiences of the designed environment to explore beliefs and invent future realities that ask us to rethink from new perspectives. Specifically, inquiry of reasoning related to our ritualistic habits and behaviors while allowing percipients to take personal ownership in designing our identities.

Moreover, the phenomenological and 'scenic' translation of belief and desire through our lived experiences countenances us to explore alternative design opportunities. This in turn generates an engagement in living through alternative systems and transpose desire, to question the rationale in applying design to lived experiences.

Data collected from the location visits and materialized translations by students has enabled the investigation of behavior and belief permitting examination of relationships concerning environmental features, design and paranormal phenomena. This research project has helped to define and translate subjective and analytical data into the development of new design concepts. These identify factors that influence the perception of anomalous occurrences and outlines variations in paranormal phenomena, providing novel insights in response to the design of experiential scenarios. This exploratory design-practice based approach to the workshop has identified opportunity to inform a broad range of research applications for future research projects that explore scenarios for health and wellbeing, enriching social and cultural relationships with place, establishing new connections with environmental ecology and developing new insights for architecture, design and spatial planning.

7. References

Annett, M. et al. (2016) The Living Room: Exploring the Haunted and Paranormal to Transform Design and Interaction. *Proceedings from 2016 ACM Conference 'Designing Interactive Systems'*, Brisbane, Australia, pp1328-1340.

Bassett, K. (2004) Tool: Some Psychogeographic Experiments, *Journal of Geography in Higher Education, 28*, 397-410.

Baxter, J. A., & Chua, W. F. (1998). Doing field research: practice and meta-theory in counterpoint. *Journal of Management Accounting Research, 10,* p.69.

Blackmore, S. J. (1997) Probability misjudgment and belief in the paranormal: A newspaper survey. *British Journal of Psychology,* 88, pp. 683-689. https://doi.org/10.1111/j.2044-8295.1997.tb02665.x

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), pp. 77-101. ISSN 1478-0887 Available from: http://eprints.uwe.ac.uk/11735. https://doi.org/10.1191/1478088706qp063oa

Bucolo, S. and Wrigley, C., 2012. Using a design led approach to emotional business modelling. In Leading innovation through design: *Proceedings of the DMI 2012 International Research Conference* (pp. 323-333). DMI.

Burgess, R. G. (2002). *In the field: An introduction to field research*. Routledge.

Davies, O. (2007). *The Haunted: A Social History of Ghosts.* New York: Palgrave Macmillan.

Drinkwater, K. G. (2017). Belief in the Paranormal: Measurement Development and Evaluation. PhD Doctoral Thesis. Accessed via e-space.mmu.ac.uk/

Drinkwater, K., Dagnall, N., Grogan, S., & Riley, V. (2017). Understanding the unknown: A thematic analysis of subjective paranormal experiences. *Australian Journal of Parapsychology, 17*(1), 23.

Drinkwater, K., Denovan, A., Dagnall, N., & Parker, A. (2017). An Assessment of the dimensionality and factorial structure of the revised paranormal belief scale. *Frontiers in Psychology, 8,*1693. doi: 10.3389/fpsyg.2017.01693

Dunne, A., & Raby, F. (2013) *Speculative Everything: Design, Fiction and Social Dreaming*, MIT Press.

Eaton, M. A. (2018) Manifesting Spirits: Paranormal Investigation and the Narrative Development of a Haunting, *Journal of Contemporary Ethnography,* 1–28.

Epstein, S., Pacini, R., Denes-Raj, V. & Heier, H. (1996). "Individual differences in intuitive-experiential and analytical-rational thinking styles". *Journal of Personality and Social Psychology*. 71: 390–405.

Fort, C. (2008) *The Book of the Damned: The Complete Works of Charles Fort.* London: Tarcher

Foster, J. J. (2001). Measuring belief in parapsychological phenomena and its relationship with paranormal experience and religious attitude. *Unpublished manuscript.*

French, C., Haque, H., Bunton-Stasyshyn, R., & David, R., (2009) The "Haunt" project: An attempt to build a "haunted" room by manipulating complex electromagnetic fields & infrasound. *Cortex, 45*, Issue 5.

French, C. C., & Wilson, K. (2007). Cognitive factors underlying paranormal beliefs and experiences. In S. Della Sala (Ed.), *Tall tales about the mind and brain: Separating fact from fiction*, pp. 3-22. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198568773.003.0002

Fukasawa, N. & Morrison, J. (2007) *Supernormal, Sensations of the Ordinary.* Lars Muller Publications, Baden, Switzerland.

Hunter, J. (2018) *Engaging the Anomalous: Collected Essays on Anthropology, the Paranormal, Mediumship and Extraordinary Experience.* White Crow Productions Ltd, Hove, UK.

Ironside, R. J. (2016). *"Interactional Dynamics and the Production of Collective Experience: The Case of Paranormal Research Groups."* PhD diss., Department of Sociology, University of York.

Irwin, H. J. (2009) *The Psychology of Paranormal Belief: A Researchers Handbook*, University of Hereford Press.

Irwin, H. J. Dagnall, N. & Drinkwater, K. (2013) Parapsychological Experience as Anomalous Experience Plus Paranormal Attribution: A Questionnaire Based in a new Approach to Measurement. *Journal of Parapsychology, 77,* No.1.

Irwin, H. J. and Watt, C. (2007). *An introduction to parapsychology*. 5th ed., Jefferson, NC: McFarland.

Johnson, J. C. (1990). Selecting Ethnographic Informants. *Sage University Paper series on Qualitative Research Methods 22.* Newbury Park, CA: Sage Publications.

Jung, C. G. (1959) *Flying Saucers, A modern myth of seeing things in the sky.* Routledge & Kegan Paul, Oxon.

Laythe, B., & Owen, K. (2012). Paranormal belief and the strange case of haunt experiences: Evidence of a neglected population. *Journal of Parapsychology*, 16, 79–108.

Moore, D. W. (2005). Three in four Americans believe in paranormal. Gallup Poll News Service (16 June 2005). [Retrieved 1st April, 2019]. http://www.gallup.com/poll/16915/Three-FourAmericans-Believe-Paranormal.aspx

Parsons, T. and Charlesworth, J., (2017) Exhibition: Spectacular Vernacular, (http://parsonscharlesworth.com/Spectacular-Vernacular-Solo-Exhibition)

Parsons, S. T. (2018) *Guidance Notes for Investigators of Spontaneous Cases, Apparitions, Hauntings, Poltergeists and Similar Phenomena,* SPR, Society of Psychical Research, London.

Peters, E., Moritz, S., Wiseman, Z., Greenwood, K., Kuipers, E., Schwannauer, M., Williams, S., Scott, J., Beck, A., & Garety, P. (2010). The cognitive bias questionnaire for psychosis. *Schizophrenia Research*, 117, 413.

Sawyer, R. K. (2002). Emergence in psychology: Lessons from the history of non-reductionist science. *Human development, 45*(1), 2-28.

Thalbourne, M. A., & Delin, P. S. (1993). A new instrument for measuring the sheep-goat variable: Its psychometric properties and factor structure. *Journal of the Society for Psychical Research*, 59, 172–186.

Wiseman, R., Watt, C., Stevens, P., Greening, E., & O'Keefe, C. (2002). An investigation into the alleged haunting of Hampton Court Palace: Psychological variables and magnetic fields, *Journal of Parapsychology, 66(4)*, 387-408.

About the Authors:

Mr Fabrizio Cocchiarella: Designer, Senior Lecturer and Researcher at Manchester School of Art, Manchester Metropolitan University. Current research through design practice utilises psychical research as a lens from which to re-invent design scenarios that explore the phenomenology of experience through Para-design.

Dr Ken Drinkwater: Senior Lecturer and Researcher in Cognitive and Parapsychology at Manchester Metropolitan University whose research has contributed to many published works in the field. Current research interests are the anomalous, parapsychology, paranormal belief, conspiracy theories, cognition, memory and neuropsychology.