

AUGMENTED PLACES: EDUCATIONAL ENVIRONMENTS AND THE SENSE OF 'PLAY'

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Abstract

Digital media could be considered a type of 'play'; as creative and engaging tools to design and think with about architecture and designing processes. Within this paper, the digital media are considered as a tool that provides us with qualities equivalent to those of play. 'Play' is a notion easy to comprehend intuitively, but complex to analyse and define. Anthropologists and psychologists have examined the elements that make the play engaging and stimulating, and to function as such. Here, we will base our examination of play, and its relation to digital media, upon the three notions that Piaget describes as the three stages of play: (a) the element of surprise and the tendency to explore things through action, (b) the role-play, and (c) the complex rules and metaphors that make up the play. Through this paper, it is argued that these three elements are key aspects of the digital media, and reasons for which the often constitute engaging mechanisms to 'play' or design with.

Keywords: play, game, digital media, education.

1 INTRODUCTION

The sense of play has evidently been a key notion in the development of people's ability to learn and interact creatively with one another. [1] The notion of play is fundamental in the creation of a child's character at several stages of their life, and it also constitutes an element that allows them to learn, evolve themselves, and explore the world. [2] As Henry Jenkins claims:

"Play, as psychologists and anthropologists have long recognized, is key in shaping children's relationships to their bodies, tools, communities, surroundings and knowledge. Most of children's earliest learning comes through playing with materials at hand. Through play, children try on roles, experiment with culturally central processes, manipulate core resources, and explore their immediate environments. As they grow older, play can motivate other forms of learning." [3]

The sense of play, although can be easily intuitively comprehended, is a notion that is hard to be explicitly defined. Within the last century, with the evolution of psychology and anthropology, play has been approached and theorised in a series of different ways. [4] The aim has generally been to comprehend human cognitive development, behavioural patterns, and the child's mental and social development, growing and learning process. [5]

According to Jean Piaget and his commentators, the sense of play can be described through its three main stages. These three stages demonstrate some of the most crucial aspects of the very nature of play. [6] The first is about the exploration of the unknown, the exploration of the world through action. The second is about the symbolic pretend play of roles, and the third refers to more complex rules and metaphors that are involved in the play process. [7]

Within this paper it is argued that these three aspects of play also demonstrate three key aspects of new media, and the reasons for which these media provoke critical and engaging learning and play experiences. In this study, new media are mainly considered in relation to space, architecture and design practices.

Hence, here, we will look into the digital media as a type of 'play'; as an element that potentially provides certain qualities equivalent to the children's play, as those are described through Piaget's three stages.

Digital media, hybrid and augmented environments, considered as a setting of 'play', may enhance the educational process, and the representation and design skills of architecture students. The consideration of the digital media as equivalent to a kind of 'game' hopes to raise a discussion and provoke thoughts on how new media can be creatively and critically incorporated in educational environments and particularly in relation to the architectural education.

Through this paper, we will look into the above mentioned three main elements of the sense of play, emerging out of Piaget's theory: (a) the element of curiosity and surprise; the encounter with the unfamiliar, the unknown, and the challenge of exploration, (b) the role-playing and the thrill of changing, forming, concealing or revealing identities, (c) the complex rules, the metaphors, the imaginative dimension, and the 'seams' or 'ruptures' that take you 'in' and 'out' of the play's dream-world.

I argue that these three aspects are also the three key elements, or reasons, that often make the use of digital media and the experience of augmented environments appealing and engaging.

2 THREE MODES OF ENGAGEMENT WITH DIGITAL MEDIA AND THE SENSE OF PLAY

2.1 The digital media and the un-familiar – Every new game

The first stage of play is the exploration of the unknown, the observation of the effect of an act. As Smith claims, the first stage that Piaget describes is of the young child who lets objects drop, or makes sounds, and enjoys the surprising effect of these actions of his. [8] The new, the strange, the un-familiar is appealing. It provokes someone to 'play' with it, to explore it, and therefore it becomes the centre of an engaging and interactive situation. Digital media often encompass such characteristics. Digital media, due to the speed of their evolution and to their particular nature, evoke the feeling of exploration; they constitute a complex and partly unknown medium.

New media stimulate curiosity in relation to the unknown, the mysterious, the surprising, the new and different – like a new, different game. This mainly applies to media that one is not particularly familiar with. As it is often observed, a medium functions differently depending on the degree of familiarity that one has developed with it. [9] When it is a not very well know medium, it engages the user, as it constitutes an element to be explored, possibly through trial and error, forming, thus, a type of play. When the user becomes familiar with it, it turns into a functional tool for work, a tool ready to hand. [10] Hence the degree of excitement and playfulness that a new medium provides is also relevant to the degree of the user's familiarity with it.

An example that demonstrates this is the fact that when a new technological gadget becomes available, at the beginning it provokes the excitement of a play, whereas when it has been explored, and the user becomes familiar with all its functions, then it turns into a part of the everyday life, into a functional tool.

The following installation is another example that demonstrates this aspect of new media. A real time teleconference had been set up between two foyer spaces of two buildings of the University of Edinburgh. The users of the two spaces could communicate between them in real time through video image and sound. The people who happened to pass by seem to become engaged with it due to the fact that it is something unknown to them. As they moved within the space they gradually realised how this installation functions and how they can possibly use it. Hence they start 'improvising' and playing with it.

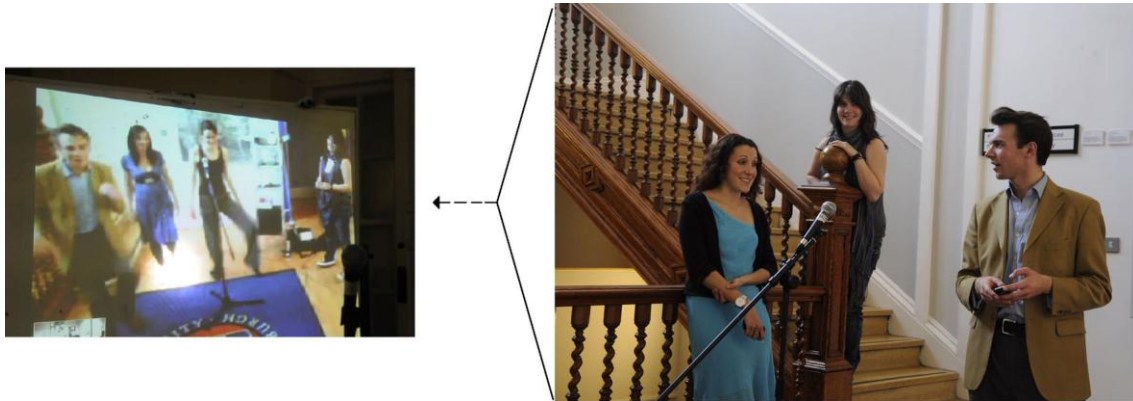


Fig.1: Digital media used to create an engaging installation in a public space of the University of Edinburgh

When the installation was initially set up, we observed that the people who happened to pass by were attracted by its peculiarity; by the fact that an unknown device and ‘game’ appeared in their everyday space. [11] They interacted with it, and they seemed to be exploring how it works; what part of the space is being seen from the other room, where they had to stand in order to be seen or heard by their colleagues in the other space, what technology was being used, etc. The fact that a medium is not known acquires trial and error – attempts to approach it in order to find out what it does or how it does what it is supposed to do. It involves the element of experimentation, exploration and eventually successful understanding of its mechanism.

In the following days, when there wasn’t anything else to explore about it, people became familiar with it, and the installation seemed to be less appealing and engaging for them. I would assume that if the installation was kept functioning for longer, they would only occasionally interact with it, mainly in cases that it would fulfil some practical function and need.

As Lloyd P. Rieber argues in his paper ‘Seriously considering play’, a game cannot be too difficult or too easy. [12] It has to provide a certain amount of challenge and difficulty in order to be engaging. Here the equivalent of ‘difficulty’ could be the degree of un-familiarity with the medium or with the setting that it creates. Still, though, if after his engagement with the play (or the device/ space) the user does not become able to start *playing* with it, then he may lose interest and leave it. If the user does not gradually find out how it works, what it does and how he or she can interact with it, then he cannot become immersed in the situation that the medium was aiming to create. The un-expected provokes the user to explore it; it has to provide, though, hints of how it can be explored further to keep the user motivated.

When someone becomes familiar with the medium or play, then it mainly functions as a tool for a specific purpose; not as a play. The play works only as long as it carries on challenging the user to explore its potential further.

2.2 Augmented spaces - Role playing

The second phase of children’s play is the role-playing. [13] This is a very common phase, or aspect, of play, and it is expressed in a variety of ways.

As Henry Jenkins claims, “performing shared fantasies allows children to better understand who they are and how they connect with the other people around them”. [14] As he presents:

“Role-play is very popular with contemporary youths, whether it be the cosplay of young anime fans (costume play based on characters from anime), the fusion with a digital avatar in computer gaming or fantasy role-play, or the construction of alternative personas in subculture communities such as the Goths. Such play has long been understood as testing identities, trying on possible selves, and exploring different social spaces.” [15]

The role-play can be of a character different to one's self, but it can also be a re-enactment of his/her actual self and condition. As Piaget presents, two children may 'play the sisters', which may be what they actually are; and this does not make it less of a play. [16] Through digital media, digital social networks, virtual chat-rooms and hybrid environments, one can re-create his identity as he wishes.

Anonymity is a phenomenon broadly discussed in relation to the role-play through digital media and internet communities. According to some theorists, one is more 'free' and open when anonymously embodying an imaginative character and hides his identity. Then he is truly himself, not embarrassed to express his opinions and thoughts openly. Howard Rheingold points out the liberation that electronic mediums provide whereas other theorists open up this issue and look into the complex ways in which one is bodily engaged within a hybrid situation.

Rheingold's remarks are based on a body-spirit dichotomy; it is sourced upon Enlightenment's thought, which prioritises spirit over the physical body. As Rheingold argues, within a virtual environment such as that of internet communities, one can distance himself from his physical characteristics and establish a communication with other people without his appearance interfering. [17] As Coyne notices, "for Rheingold, information technology assists toward the Enlightenment aim of diminishing inequality and prejudice". [18] Within these narratives, "the essential person is the being who thinks, not the mere body with all its imperfections that houses the mind. Information technology is a technology of the mind that allows the transmission of aspects of the essential self". [19]

However, physical appearance is present there, even when communicating over the internet, whether someone else sees it or not, and is possibly affecting one's behaviour in any case. For example, the choice of how one performs and transforms his or her self, is inevitably related to one's physical appearance, whether it consistently represents it or completely alters it. The way one perceives his physical appearance forms aspects of his character which may be present at an online communication even if there is no image appearing. Within this field of thought, the previously mentioned dichotomy, and the 'liberation' from the appearance, does not really occur.

This very argument, though, may still seem to be sourcing upon the thought that the complete 'self' is already there and that our behaviour reveals only parts of it. [20] It seems to be based, thus, upon the consideration of the self as something that exists whether we may access it or not, a consideration founded on Plato's and Romanticism's ideas. [21]

On the contrary, through the behaviourists' perspective the above case would shift. Gilbert Ryle's consideration of the self, based upon an Aristotelian viewpoint, would oppose this argument, since, according to him, one is characterized by his behaviour and praxis – and not in reference to a concept of his 'inner' or 'complete' being that may be partly and occasionally revealed. [22] One's behaviour and acts are there whether his physical appearance is revealed or not, and independently to whether he is 'fully' or 'truly' 'entirely' revealed. [23] Deleuze and Guattari reflect upon a similar field of concepts; they consider identity not as something hidden and possible to be occasionally revealed, but as what is *generated* out of our relations with the others. [24] As Dorian Wiszniewski and Richard Coyne present, "from a Heideggerian perspective, we do not need to presume an independent-thinking subject, a whole and individual identity, before we encounter what it is to be in the world". [25] The notion of the individual identity is not preceding that of time, experience and change. Identity, as a notion and as an entity, does not exist prior to the conditions it encounters.

This variation of interpretations demonstrates a richness and complexity of how the personal identity is constituted, interpreted and expressed. Different media allow different ways of interaction and reveal or conceal – or else form and construct – different aspects of someone's character and behaviour. As Angeline S. Lillard presents, "children's thinking about the pretend world seems to be more flexible than their thinking about the real world, and this might indicate that pretend play is an environment in which children are more competent at tasks requiring flexible or divergent thinking skills". [26] Similarly, the use of digital media, allows a variety of interweaving ways of constructing one's identity and interaction with others.

This aspect of new media turns them into a role-playing game, and assigns to them the excitement that those provide us with. Hence, the use of multiple communication modes and collaboration platforms in educational environments (such as face to face group-work, blogs, e-learning, virtual chat-rooms), may provide a 'playful' and engaging learning process. [27]

2.3 Digital metaphors – ‘in’ and ‘out’ of play

Evidently, every new medium provides us with a different insight towards what is examined. In architecture, like in many other disciplines, students and designers use different media, and shift between them, in order to approach different aspects of the element or space that they explore. Digital media, and the mythical dimension of virtual realities enhance the imagination and allow architects to play with ‘impossible’ situations. The ‘game’ becomes immersive.

As Piaget describes, the third stage of the play involves the development of more complex rules. [28] The metaphors used and the conventions of what each type of action or behaviour means or results constitute the essence of the play. The third stage of play is about the sophisticated and complex metaphors, and about the other, imaginative, worlds that are collectively (or possibly personally) created, and within which the players become immersed. The players are aware of the fact that they are *within* the play, and they can easily find themselves in and out of it. Even when they players are carried away and immersed fully within the imaginative world of the play, still, they may seemingly seamlessly move in and out of it. The actual everyday world is there and this does not make the play less real. We could actually argue the opposite. The ‘seams’ between the fantasized ‘impossible’ world and the actual world, make the play desirable and engaging.

As Wigley claims, “[t]he ever-expanding space of this parallel world is not simply that of the idealized architectures depicted on the screen, but the space defined by the complete occupation of one’s senses. The real key to the architecture of gamespace, like any other architecture, is the entrance and exit. While the abruptness of exiting a game suddenly reveals how deeply one has been immersed, the entrance is carefully engineered to avoid even this momentary perception. It is softer and slower in order to stealthily remove the sense that there is an outside to the game. As in cinema, a sequence of overlapping thresholds gently lowers the player into the dreamscape. [...] The would-be player is kept busy adjusting the settings, and somewhere in between all of the clicking, enters the game. Or, more precisely, leaves the physical room without knowing it, dissolving the everyday environment, conquering it by putting it on hold. [...] Games don’t begin by asking, ‘Are you sure you want to exit your environment?’ We are sure.” [29]

Situation involving digital technologies acquire characteristics similar to those of the play, as they build upon simple pre-set conventions and metaphors. The mouse can be a pen to draw with; it can be the steering of a car, a torch to direct the light, etc.

As Rieber argues, the metaphors that one develops through the play develop his cognitive and analytic thinking. [30] He demonstrates that the play enables children to handle and become familiar with ideas. Hence, they no longer need to strictly link words to visual images, as they become capable of detaching meaning from a single visual input. As he claims, a child intuitively relates words to visual objects, and when a word is uttered he looks for its visual analogous in the space around him. Through the process of playing, this rigid link opens up and the child becomes able to comprehend meanings and ideas. A wood (as he mentions as an example) can be a doll, a house, a tree, etc. The representational skills, the skill of abstraction and symbolising, start, hence, to develop.

So, it becomes obvious that play is relevant to architectural training and design in a twofold way:

On one hand, the process of play enhances the capability of imaginative metaphors. Transgression is often part of the design process, and play is something that facilitates this. As Lev Vygotsky argues, the play does not have a fixed objective. What directs its flow, and the tendency and desire to be involved in it, is something ambiguous and constantly shifting. [31] Digital media and the immersive environments that they create are often part of such ‘plays’. In Fig. 2, we can see an immersive hybrid environment that 2nd year architecture students produced in order to explore and represent a part of the city. [32]

The students were asked to explore a specific part of Edinburgh, and represent some elements of that part of the city through an installation. The immersive environment that they created takes advantage of the digital media, and represents elements of the place over time. Sounds recorded of the site are played and words that were encountered (visually and sonically) along their journey in the city, appear as projections on semi-transparent sheets of fabric. The visitors of their installation walk through the fabric sheets, touch them to make their way, and listen at the same time to the track playing. The incorporation of digital media in the exploration, study and representation of the city turned the process into a creative and engaging ‘game’. As it becomes obvious, the incorporation of digital media did not reduce the sensuous effect of the project and process, it rather enhanced it further.

At the same time, the shift between being 'in' and 'out' of the play is crucial. Through this shift one can critically reflect upon the medium he uses and the potential that it has. The seams, the ruptures, the fact that one is at one moment immersed within the representational game and at the next out of it and critically reflecting upon it, makes it an enriching educational tool.

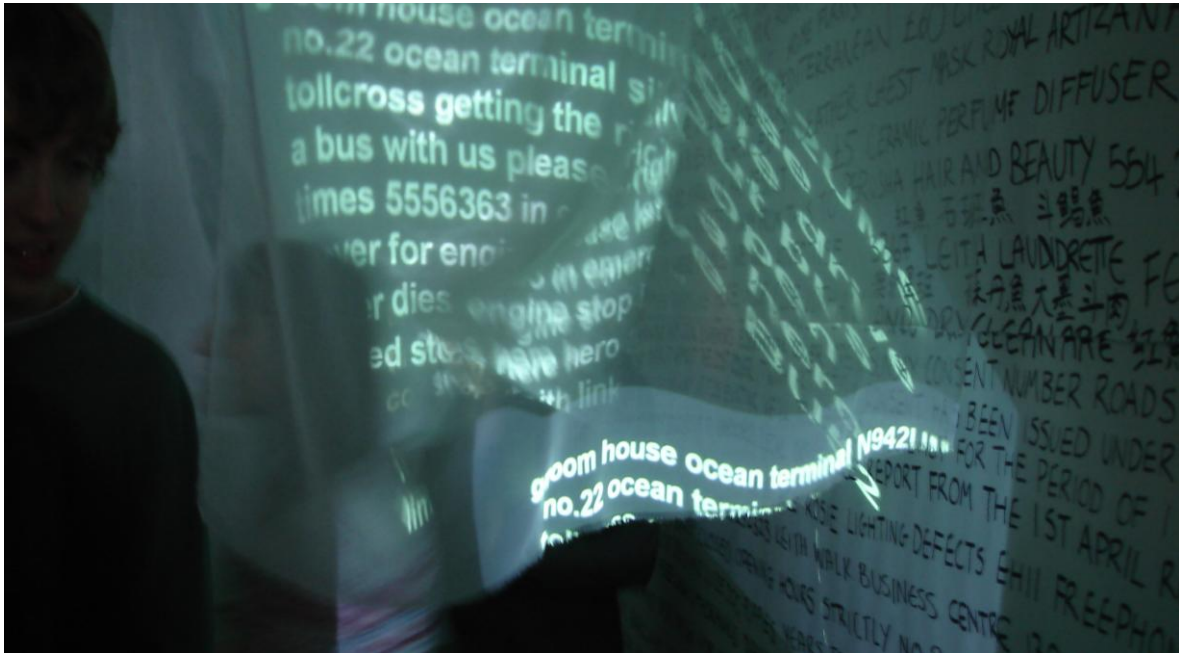


Fig.2: Installation made by 2nd year students

3 INSTEAD OF CONCLUDING

Within this paper we briefly looked into the three key-themes of play as those are described by anthropologists based upon Piaget's theory, and into how these express the three key elements that make the use of digital media engaging and immersive. The three key-themes are (a) the element of surprise and the unknown, (b) the role-play and the construction of an identity, and (c) the metaphors and the seams between being in and out of play. Every creative medium can be interpreted in response to these three key-themes, and regarded, hence as an engaging tool to work – or else 'play' – with. Digital media are particularly regarded here as expressive of this link, as they change fairly quickly over the last few decades, and for this they often offer the element of surprise, and the sense of exploration of the tool itself.

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- [4] Ibid., RIEBER, L. P. (1996) Seriously Considering Play *Educational Technology Research & Development*, 44, 43-58.

- [5] JENKINS, H. & ET.AL. (2009) *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*, MIT.
- [6] Here we should mention that Piaget described six stages of the evolution of play, which follow one another and occasionally overlap. However, most of his commentators focus on the first three; these have been interpreted as the most crucial, and also as the ones that best crystallize the essence of play. PIAGET, J. (1951) *Play, Dreams and Imitation in Childhood*, London, Routledge., SARACHO, O. N. & SPODEK, B. (Eds.) (2003) *Contemporary perspectives on play in early childhood education*, Information Age Publishing., SMITH, P. K. & GOSSO, Y. (2010) *Children and play*, Wiley - Blackwell. p.10
- [7] PELLEGRINI, A. D. & SMITH, P. K. (Eds.) (2005) *The Nature of Play: Great apes and humans*, New York, The Guilford Press. p.175, SARACHO, O. N. & SPODEK, B. (Eds.) (2003) *Contemporary perspectives on play in early childhood education*, Information Age Publishing. p.10
Saracho and Spodek present the three main stages of play, based upon Piaget's Cognitive theory: "1. Sensory-motor play, 2. symbolic play, 3. games with rules".
- [8] PELLEGRINI, A. D. & SMITH, P. K. (Eds.) (2005) *The Nature of Play: Great apes and humans*, New York, The Guilford Press. p.175-176
- [9] See also: KARANDINO, A. & LYMPOURIDIS, V. (2010) Hybrid meeting places; from a real-scale 'chat-room' to an augmented public bus stop. IN VOYATZAKI, M. (Ed.) *File to Factory*. KAM, Chania, F2F Continuum.
- [10] See also: HEIDEGGER, M. (1962) *Being and time*, Blackwell Oxford, UK. p.135-144
- [11] KARANDINO, A. & LYMPOURIDIS, V. (2010) Hybrid meeting places; from a real-scale 'chat-room' to an augmented public bus stop. IN VOYATZAKI, M. (Ed.) *File to Factory*. KAM, Chania, F2F Continuum.
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- [14] JENKINS, H. & ET.AL. (2009) *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*, MIT. p.50
- [15] Ibid. p.50
- [16] PIAGET, J. (1951) *Play, Dreams and Imitation in Childhood*, London, Routledge.
- [17] We could argue, thus, that these thoughts emerge out of a rational that divides the being into mind and body, into conceptual and material world, generally prioritizing the conceptual over the material. See also: RHEINGOLD, H. (1999) *The virtual community: Homesteading on the electronic frontier*, MIT Press. p.11
- [18] COYNE, R. (1999) *Technoromanticism: digital narrative, holism, and the romance of the real*, Cambridge, Mass. ; London, MIT Press. p.24
- [19] Ibid. p.24
- [20] see also Ibid. p.59-61, and JOLLEY, N. (2005) *Leibniz*, Routledge. p.100-102.
It also reflects upon Leibnitz consideration of body and mind and the interrelation between them. According to Jolley unlike Descart, Leibniz does not oppose mind to body within a dichotomy, but doesn't present them within a unity either; as a rationalist, he rather differentiates the nature of each entity. He opposes to Descartes doctrine because he does not consider the body and mind as substances. JOLLEY, N. (2005) *Leibniz*, Routledge. p.101, HOOKER, M. (1982) *Leibniz*, Manchester University Press. p.172-173
- [21] Although this approach may not be necessarily based upon the dichotomy between the body and the mind, and may regard them as a system, it refers to the self as a remote entity that in some sense cannot be grasped or fully perceived as such. One's self, whether considered as 'mind' and 'body' or not, is at a remote location and one cannot 'really' reach it. Plato's philosophy is largely based upon the dualism between ideas and matter (mind and body). See also: WISZNIEWSKI, D. & COYNE, R. (2002) *Mask and Identity: The Hermeneutics of Self-Construction in the Information Age*. IN RENNINGER, A. & SHUMAR, W. (Eds.) *Building virtual communities: learning and change in cyberspace*. Cambridge, New York, Cambridge University Press.
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- [27] By this I do not mean that any of these is more engaging or better than the face to face interaction, which is generally considered the most enriching, engaging, immediate and effective form of communication. What I argue is that the access to a variety of mediums enables the students to participate in a series of different ways of communicating and expressing and developing aspects of their identity, communication skills, ways of thinking, creating, working, etc.
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- [31] VYGOTSKY, L. (1966) Play and its role in the Mental Development of the Child. *Voprosy Psikhologii*.
- [32] This project was part of the 2nd year Design Course, carried out at the University of Edinburgh, in 2007. The course organizer was Dr. Cary Siress and I was involved as a tutor.