https://doi.org/10.7577/formakademisk.3378

Dulmini Perera

Wicked problems, wicked play

Fun machines as strategy

Abstract

Design methods need to reconsider ways to avoid othering messiness (or what appears to be contradictory or nonsensical) within wicked problem situations, particularly crisis sites. As such, this paper suggests that play frames (defined as Fun Machines) can be utilised as situated strategies that designers can apply to address paradoxes and contradictions. The paper presents the theoretical framework for a Fun Machine by focusing on second-generation design methods and how they facilitate conversation, while simultaneously exploring an often-neglected playful aspect of conversation that is usually found in fun-making. The applications of a Fun Machine are discussed in the historical context (Cedric Price's Fun Palace) and with a pilot project conducted at a contemporary crisis site (Dessau).

Keywords*:* crisis, mess, after method, second order design, conversation, play frames.

Introduction: Should we make fun of this mess?

The many questions that are generated by different types of crises (environmental disasters, wars, etc.) have created a need within the discourse and practice of architecture for architects to critically reconsider the methods they use. A brief analysis of the history of the methods discourse, particularly the changing nature of the dominant value frameworks and tools over time, suggest that design methods have become technically much better at *making sense* of the complexity of living systems. The "making sense of" aspect of this discourse is often linked to the clarity and accuracy of obtaining information to frame the complexity of the problem. The notion that complex problems demand strategies that are serious and sensible is evident in the discourse; it is also manifested in the design solutions proposed for crisis sites, such as those of the shrinking cities in East Germany.

Dessau shares many of the complex problems that the former industrial cities of East Germany have faced since the country's reunification. Declining job opportunities, the mass exodus of members of the younger generation, the consequent increase in the number of elderly and the abandonment of the built infrastructure are some of the complex issues that are an intrinsic part of the everyday reality of these cities (Oswald et al., 2005). Dessau also provides the backdrop for the famous architectural landmark the Bauhaus. The entangled history of the Bauhaus and other industrial institutions, such as the Junkers factory, are reminiscent of the city's industrial past – and, in general, they are reminders of better times. Although numerous efforts have been made since the 1990s to integrate cities like Dessau into the economic and growth processes of Germany, the results have primarily been conflicting. Many serious proposals at a national level and state level, such as the conversion of the Stadtpark in the heart of Dessau to an Interkultureller Generation Park (Beeck & Bruckner, 2010), the completion of the new Bauhaus Museum Dessau (Thöner, Butter, Pfeifer, & Savelsberg, 2016), the rebranding of the city using Bauhaus as a cultural landmark and the demolishing of abandoned infrastructure to create extended landscapes through the City of Islands Project (Beeck & Bruckner, 2010) are examples of some of these admirable efforts. However, as seen in Figure 1, the not so serious looking systems also depict Dessau as it is – or what it could be. These alternative constructs of the shrinking city of Dessau are Fun Machines. They are different from the existing proposals for the wicked questions associated with shrinking cities. What can *Poker*

Face Bauhaus, Scram-ball, Old-topia, Social flight simulator, Chic-staining machine and *Mind-the-gap* systems contribute to the ongoing design discussion on how to address the messy predicament faced by Dessau?

Figure 1. Fun Machines (sketches by Studio Fun Machines, 2018).

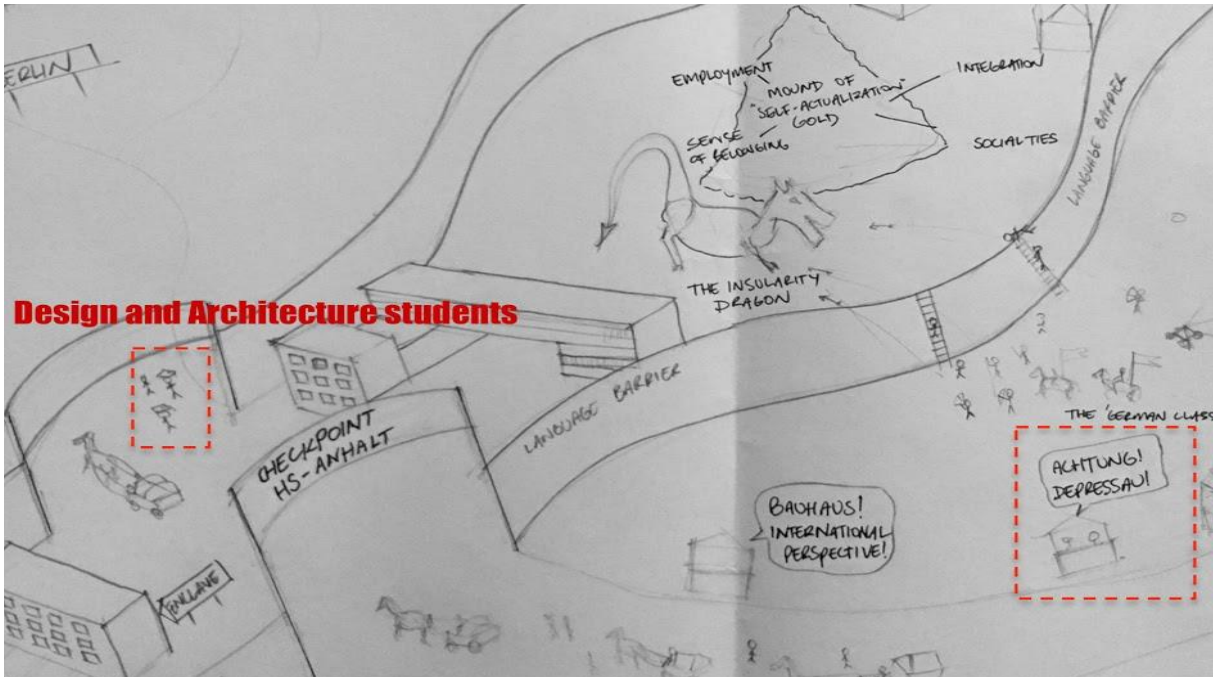

Figure 2. Dessau, Flows (sketch by Sam Koh, Studio Fun Machines, 2018)

For one thing, instead of negating mess, these systems attempt to incorporate it into the design process in significant and productive ways. They question not only the city's shrinking condition but also the state level and institutional level proposals. For example, *Mind-the-gap* questions the gaps created by the state proposal to create "green islands". *Poker Face Bauhaus* and the *Lizard who lost its tail* question the over-emphasis on the Bauhaus as a rebranding strategy for the city. *Dancing Hedgehogs* questions the very concept of the Interkultureller Generation Park.

These alternative systems are the productions of a unique category of the city's stakeholders – the architecture students at Anhalt University. As peripheral stakeholders – aptly depicted in Figure 2 as flowing through the city—their chances of participating in the state level or citizen level approaches to the city are somewhat restricted. However, they continue to be one of the stakeholders that are most affected by the broader conditions that impact the city. Thus, their position is similar to that of designers/architects who are operating as intermediaries at the centre of the crisis site (slums, refugee camps, tsunami-driven areas, etc.), but they feel as though they have very little ability to contribute to addressing the situation. The somewhat peculiar operational stance of an intermediary receives less attention within design and methods education where notions of innovation, change-making and entrepreneurship are a priority (Fullan, 2016). From a practical standpoint, these agents are caught in the middle of a crisis scenario, and they face double binds that are unique to these situations. For example, they are not necessarily in the position to directly advocate for a change or a solution, but they are in charge of seeing the change through. Moreover, since they are in direct contact with the ground reality of the site, they are significantly affected by the process of change. As such, the intermediaries often experience the disjunction between two forms of commitment that are required to work with the site. On the one hand, they are required to implement a solution and, therefore, advocate for a particular type of change. On the other hand, they are required to deal with the complexities that arise from the process of change itself as they actively work within the crisis site.

How would the methods machine operate if optimisation or finding the "right" answers were not what it was meant to do? How can the methods machine be updated in ways that enable designers to live and work with the confusion found at crisis sites? What would the methods machine look like when its commitment is to facilitate the process of change, not to implement a specific type of change? What happens to design methods when they are liberated from a "moralist idea" of methods that suggests that only right methods (right forms of questioning, sampling, categorising, mapping, drawing) will allow one to accurately assess and solve a design problem? What if the methods machine constructs the reality it is designed to investigate instead of merely describing it? What if, instead of diligently trying to find a solution, designers ask themselves and others: should we make fun of this mess?

Methods, machines, mess

Attempts to discuss the parallels between design methods and machines in architecture can be traced back to Vitruvius with modernist re-appropriations in the work of Le Corbusier (2014) and Giedion (2013). The machine is often seen as a metaphor that draws parallels between the broader developments in technology (production process) and the architects' immediate concerns of producing form. In all these appropriations, the methods machine is precisely tuned to perform a definable task. For systems theorists – proponents of the post-war Design Methods Movement (DMS) who were instrumental in developing a specific discourse on methods within architecture – the machine refers to both actual devices (which are described abstractly) and systematic processes, such as those in the design method. The design machine (design methods) was propagated by the first generation of systems theory in the 1950s; it embodies the idea that there is an optimisable right answer and that the task of methods researchers is to explore and suggest the processes by which designers can arrive at the right answer (Upitis, 2008). Within

this framework, designers use design methods to systematise the design process and eliminate the "mess" that does not fit within the optimisation framework.

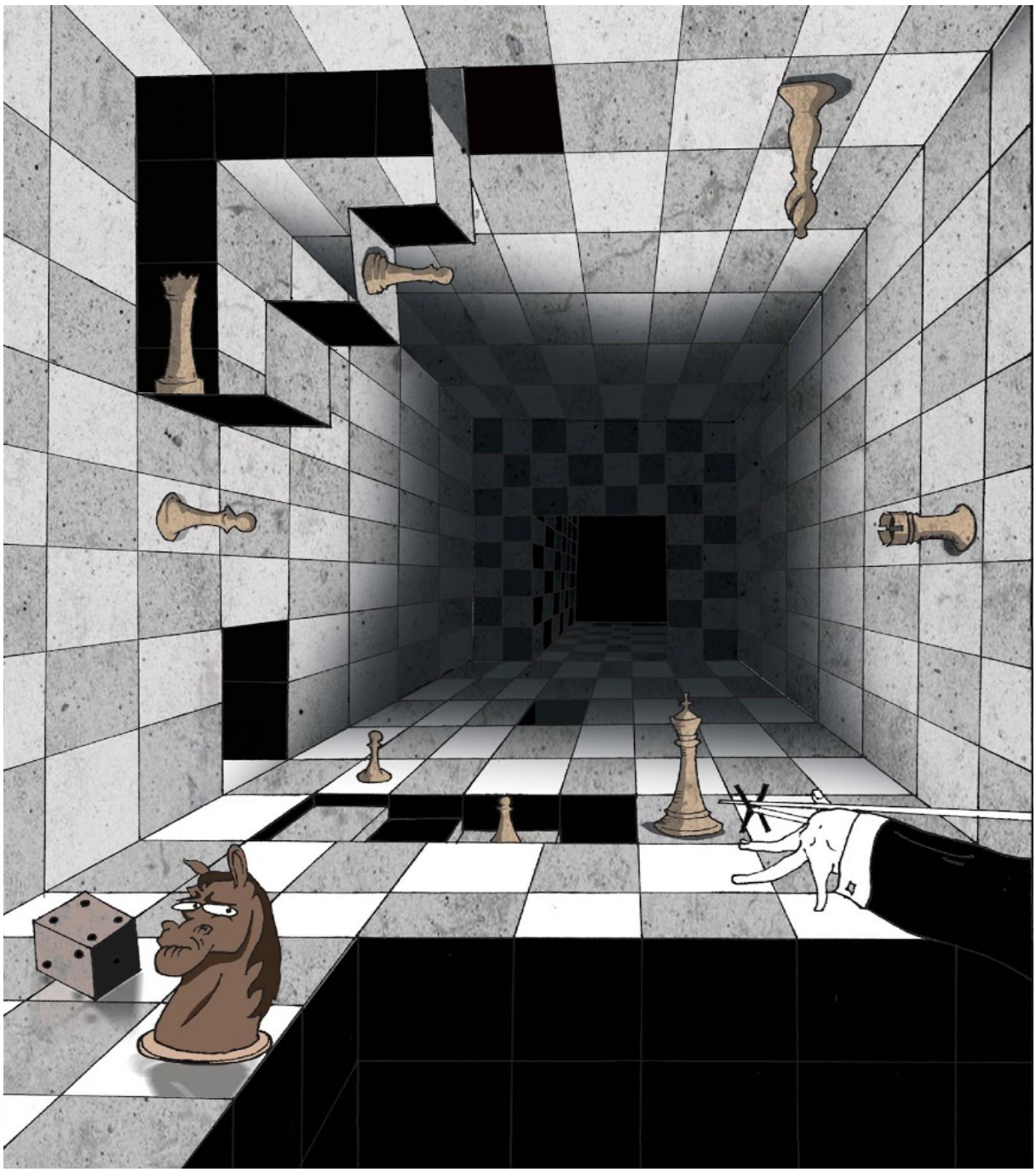

Figure 3. Wicked problems as wicked games (sketch by Aniruddha Phadke, Studio Fun Machines, 2018).

However, the proponents of the 1970s movement on design methods (also known as second-generation methods), which was pioneered by systems theorists, such as Horst Rittel, were critical of these optimisation processes. The "messy" characteristics of design problems that escaped the optimisation framework began to occupy a central position within the work of second-generation theorists. Rittel and Webber (1973) coined the term "wicked problems" to

distinguish the messy structure of the design problem from other structures. Rittel (1972) found that the complexity of design problems arises from the fact that they relate to social systems as well as material systems. The dynamic, networked, open systemic properties of these problems make it difficult to clearly frame them. The complexity arises from not having a clear vision of the framework of the problem itself, or what qualifies as the design problem (Figure 3). Thus, Rittel (1972) critiqued the first-generation design methods as attempts to tame the wicked problems. Rittel (1972) viewed this taming as a way of negating the differences within the problem and within the types of knowledge (expertise) required for working with these differences.

Rittel's (1972, 1984b) work (and second-generation methodology in general) asked a far broader question about the nature of design knowledge and what its methods and its politics might be when not limited by the obsession with clarity, specificity and professionalism. The nature of this "wickedness" as outlined through 10 features in Rittel and Webber's (1973) article, "Dilemmas in a General Theory of Planning", have profound consequences on understanding mess as it relates to design problems. While these features do not point towards specific methods, they provide a framework to critically rethink and evaluate existing methods and practices (Rittel & Webber, 1973; Sweeting, 2018). Feature 1 – "there is no definite formulation of a wicked problem" – critiques design methods that focus on clarity and specificity when conducting exhaustive analysis and information gathering at the outset, and by extension, the focus on rational linear problem solving (Rittel & Webber, 1973, p. 161). Feature 7 – "every wicked problem is essentially unique" – questions established research strategies, such as comparative analysis or precedent studies and their relevance to wicked problem framing (Rittel & Webber, 1973, p. 164). Feature 9 – "the choice of explanation determines the nature of the problem solution" – questions the moralist assumption that the professional possesses knowledge of a "right" way to conduct research (Rittel & Webber, 1973, p. 166). It is unclear which problem is to be addressed; therefore, apparently, there are no conclusive options for resolution, as they are dependent on how the situation is characterised. Feature 3 points out that "designers have no way to be right", and Feature 10 essentially states the opposite, which is that "designers have no right to be wrong", since the effects of the resolution of the wicked problem matter a great deal to the people affected by them (Rittel & Webber, 1973, pp.162/166). When considered together, feature 3 and feature 10, highlight the fundamental paradox at play within questions of design agency. Finding ways to work with this paradox, also known as a question of "asymmetrical agency" (the gap between where the decisions are made and the people that are affected by the decisions), is central to the second-generation methods discourse (Sweeting, 2018). Taken together, these points influenced what can be considered to be the two most important driving points of the reformulated second-generation methods machines: 1) The identification that the design process is a process of argumentation, so framing design problems means framing conversations and 2) There is a symmetry of ignorance; consequently, no single category of stakeholders that is impacted by the problem knows all there is to know about the system. Therefore, relevant problem framing occurs by involving various stakeholders in the conversation (Rittel, 1984b).

For a technologist and systems thinker, such as Rittel, the distinction between tame problems and wicked problems presented an opportunity to distance what he identified as "instrumental knowledge" that is useful to designers from the methods frameworks that attempt to find absolute truth in the sciences (Sevaldson, 2010). Critiques advanced by philosophers of science, such as Paul Feyerabend (1970, 1972, 1993), against the methods used in search of absolutes that were characteristic of the philosophy of science around the 1970s, found close parallels with Rittel's (1973) argument. Feyerabend (1982, 1993) posited that science deals with the design of new ideas and understanding. As such, the criteria and methods that are appropriate resist predefinition and emerge through the process. For example, "Standards which are intellectual instruments often have to be invented, to make sense of new historical situations

just as measuring instruments have constantly to be invented to make sense of new physical situations" (Feyerabend, 1982: p. 29; Sweeting, 2016, p. 574).

Feyerabend (1982) concluded that "anything goes" is the only criterion that can be given in advance that does not inhibit scientific progress. Feyerabend was not negating method; rather, he was playfully pointing out that when dealing with real-world complexity one must not take rationality (and the established categories thereof) too seriously. He was critical of so-called professionals who, with all good intentions, are passionately connected to their "positions", and, in most instances, the dogmatic arrogance that comes with the mastery of established methods related to these positions. Feyerabend (1982) highlighted that no view should be immune from critique.

Feyerabend's (1993) "epistemological anarchy" was about epistemological humility. Methods should not be about finding "the truth" via established categories; they should be ways of dealing with what is confusing, when one tries to work via established categories (Feyerabend, 1970, 1993). The more recent move towards "after methods" suggested by Law (2004) represents a more affirmative and developed form of Feyerabend's argument. While Feyerabend's argument is strong in terms of its negation (stating what methods should "not be" used), it is relatively weak in suggesting how methods can affirmatively deal with all the components that are othered. In contrast, Law (2004) used a more dialectical method to frame the relation between method and mess. For Law (2004, p. 14), the "methods assemblage" essentially contains two components: "enactments of relations that make some things (representations, objects, apprehensions) present 'in-here', whilst making others absent 'out-there'". Thus, Law (2004) highlighted that when working with clear categories (knowledge categories, theoretical lenses, such as Marxism, modernism, environmentalism, structuralism, feminism, etc. and professional codes) one takes the system to be fairly definite and it is assumed that definite processes are waiting to be discovered. In other words, arguments and debates about the character of social reality take place *within* these categories. Professionals enter into conversations with certain expectations. For example: "Foucauldians discover systems of governmentality. Communitarians discover communities and the need for informal association and responsibility. Feminists discover glass ceilings, cultural sexisms, or gendering assumptions built into scientific and social science method" (Law, 2004, p. 5). Accordingly, Law (2004) argued for the shift that is necessary to imagine what methods would be when designers no longer know what it is that they are after. When translated into crisis sites, this points to a much-needed shift from the commitment to a particular clear reform (which can have a seductive appeal) to a commitment to how to work through a particular process of change.

In "How to Know What is Known", Rittel (1984a) suggested that the tools and information systems of most existing methods are limited because they merely confirm knowledge. Rittel (1984a) argued that "mental crutches" are needed that enhance "natural intelligence", cast doubt and point out ignorance; thus, they provide new ways of producing knowledge. One could state that Rittel's (1984a, 1984b) work was an invitation for designers to find ways to move away from the crippling effects of the methods machine and explore it as a more playful device that opens up conversations. Rittel's (1984a) invitation mirrors a broader shift within the design methods literature, in general within the retrospective phase, where theorists, such as Cross (1984) and Jones (1991) were interested in understanding the very failure of the methods experiments. Jones (1991, p. 31) noted that: "instead of being the means by which professional practices in design and other fields could be despecialized and more sensitive to human needs they seem to have become convenient tools for more rigid planning". By extension, the methods machine has lost its focus of working through what is identified here as the *process of change* within the design process. As such, "after methods" is not a search for new methods; it consists of strategies to constantly reframe the particular complications that arise along the way. Considered in this way, Rittel's (1984a, 1984b) take on the second-order methods machine makes a significant contribution to the broader discourse "against method"

(Feyerabend, 1993) and subsequently "after methods" (Law, 2004) and the attempt to update the methods machine or leave it behind altogether to find *strategies* for identifying and living with confusion.

The Playful Second-order Design Machine

The conversational model

Some of the most direct appropriations of the second-order machine's opening towards mess are found in the work of researchers that explicitly acknowledge that design emerges through a process of controversies, arguments and negotiations. While there are no universal methods for tackling wicked problems, the conversational model is a transferable strategy that can be used to better address the wickedness. Studies on this topic, arising within systemic design practices, occupy a broad spectrum. That spectrum varies from the more direct applications of Rittel's (1984b) notion of conversations in the idea of creating or evaluating participatory frameworks in both real and digital contexts (Conklin, 2006; Jones, 2018), to developing methods, such as "Giga mapping" to visually co-map complexity (Sevaldson, 2011) and, ultimately, to prototypes developed through extended interactions with various human and non-human stakeholders (Davidova & Zimova, 2017). Regardless of their differences, these applications significantly and productively affirm the mess emerging through the negotiations between various agents within innovation processes. This conversational mechanism allows the stakeholders of a problem to act as if they understand the same thing, allowing for the coordination of collective understanding while also maintaining and establishing the difference between the participants. The maintenance of this difference allows the conversation to move beyond an agreement on existing ideas to create new ones. However, in their formalised versions most of these models tend to focus on the points of reaching an agreement (clarity) rather than the elements that create misunderstanding. In so doing, the framework is often focused on collectively "creating innovation" instead of understanding or further focusing on the differences. Furthermore, these models often assume that the stakeholders of the problem are reasonably well captured and are already present within the conversation.

The playful model

The work of Glanville (1988) and Sweeting (2014) has provided another category of research useful in rethinking playfulness in relation to the conversational model, mainly through how they address the "undecidable" or "unknowable" within the design process. Their constructivist view of wicked problems, influenced by second-order cybernetician von Foerster's (2003) "non-trivial machine" and Pask's (1969) "conversation machines", extends the notion of "argument" and the "symmetry of ignorance" from the external conversational framework to the internal framework. Their work not only emphasised how actions and objects appear as a response to the growing conversation, but also how the "designing agent" structurally emerges in relation to the context in which the agent acts. Glanville's (1975, 1988) research on object languages, and later the recorded teaching experiments on reflexive internal conversation, has been particularly useful for showing the conflicted notions of the agent as something that is much fuzzier than or not as well-constructed as a clearly defined sensible stakeholder that enters a specific design conversation. Sweeting's (2014, 2018) exploration of ethics – conducted using a thorough comparison of the structure of wicked problems and the structure of the ethical questions in design – emphasised that design is not about the implementation of right actions; rather, it is an exploration of how an action emerges as right in response to the situation. As such, Sweeting's work productively shifts the emphasis on conversational design, as relating to innovation frameworks, towards conversational design, as something that links to everyday life, which can lead to, but is not necessarily oriented towards, innovation. Collectively, their work suggests that, perhaps, when pursing innovation as the end goal, the conversational framework (under many names, including co-design, participatory design, etc.) is not as accepting of the categories that do not fit or the paradoxes that arise within the design process.

Sweeting (2018) argued that it is impossible to create a co-design framework to bridge "asymmetrical agency", thus, highlighting that even though it might be possible to develop a shared picture with a co-design group about a particular problem or even with relevant stakeholders it is not possible to account for all the missing stakeholders, such as the passers-by or future users. He noted that this is also an instance where the conversational models become less applicable within architecture, as opposed to other everyday innovation contexts (Sweeting, 2018, p. 131). Moreover, having a so-called co-design/dialogue framework does not necessarily mean all the stakeholders enter into a conversation or engage in significant interactions. Although designing may appear to be participative, it may not function as a proper conversation. In particular, co-design frameworks can fail to consider stakeholders who are less able to articulate their ideas, concerns or needs. Therefore, when creating the conversational framework designers should focus on the level of how it functions to frame the developing innovation process and how agents are trained to enter these conversational processes. In terms of training, this does not mean simply beginning the co-design process; it also means addressing how capacities are developed to relate to the situation, empathetically. To function appropriately within a conversational framework, stakeholders should expand their own framework first. Thus, learning to deal with the internal conversation process and learning to understand how one's agency is constructed are important aspects of learning to expand one's own framework. This can be understood as an ethical and participatory activity, involving care for others (Sweeting, 2014). The process mentioned above requires a much more playful engagement with all the levels of abstractions inherent in a conversation.

These observations are particularly noteworthy within the work carried out with designers in pilot crisis sites, such as Dessau. They point to two crucial areas that need further exploration. The first area is the need to question the distinction between methods for innovation and methods for survival. The inability to cope with a situation results in specific stakeholders leaving the conversational process even before moving to a phase of hoping (innovation). Entangled within this idea is the notion that, in the coping stage, the paradoxes and contradictions apparent in the site appear to the designer as "nonsensical"; thus, they are not "sensible". The second area is the need to question how the professional agency of the designer is constructed. More often than not, the identification with a "professional persona", and what is expected of this persona, is a cause of frustration for designers. Therefore, it is vital to distinguish between the conversational and the playful, and to understand that the conversational is not necessarily playful.

Fun machines

The Fun Machine – an extension of the playful second-order machine discussed in the above sections – is an attempt to help designers cope with the problem at hand by dealing with paradoxes/contradictions that appear as nonsensical. The Fun Machine uses fun-making (humour) – a specific form of conversational interaction – as a strategy to create a coping framework. Fun-making becomes a technique to facilitate freedom through its attitude of not asking anything of the situation (Bateson, 1972; Fry, 2010). Rather than aiming to satisfy serious needs, the Fun Machine approaches the situation to contemplate it further.

Meta-frames as play frames

Cybernetician Bateson's (1955) research on communication and the notion of a "meta-frame" – which, in this work is further developed as a play frame – is particularly useful in trying to understand the playful within the conversational. In parallel to Rittel's work, which emerged between the 1950s and 1980s, Bateson conducted research on other frames of communication. Bateson (1955, 1972) investigated the fundamental characteristics of the conversational interactions that occur between monkeys. As such, Bateson (1972, p.180) pointed out the significance of an observation such as "The nip means the bite but doesn't mean what a bite

would mean" to the broader notion of communication. In theorising what he later called "the onion skin model of communication", Bateson (1972) showed that humans can operate on layers of abstraction (frames within frames or develop classes within classes). The ability to confuse logical types and misplace categories is at the crux of a playful interaction developed in freedom. When playing, one deals with the paradoxes. In play, *concepts* (and by extension *words*) exist at more than one level of abstraction. When one is free or open to these "othered" components, one can slide between concepts and words. To be comfortable with the existence of paradoxes is to be comfortable with ignoring categories and logical types (similar to Feyerabend's "epistemological anarchy"). Therefore, a meta-frame that becomes a play frame is a context in which paradoxes can coexist. Psychologist William Fry (1987), who collaborated with Bateson on the project exploring how humour operates as a meta-frame, has clearly shown that contradictions – paradoxes that are usually the fundamental characteristics of the structure of a wicked problem – are also shared by the structure of humour. Fry (2010) was also interested in exploring the applications of fun-making in real-life crisis contexts. One may not be able to work with the paradoxes/contradictions, but when turned into a Fun Machine, they can be handled, grasped, operated on and handed over to others. Moreover, due to its sheer energy, coping humour can become a basis for hoping (Fry, 1987, 2010).

As understood in this present research study, a Fun Machine is an invitation to create a play frame using the materials of the situation. At the same time, the play frame contains the real and the unreal, the sensible and the nonsensical. The play frame, paradoxically suggests that what is contained within it is to be played with, and that it is nothing serious. In the processes of fun-making, the play frame takes on a particular form as it embellishes the basic pleasurable states of playfulness with various content tricks and the richness of joking, satire, caricature, etc. In effect, the Fun Machine frames the spatial (urban level, building level, object level) aspects of the wicked problem that require a solution in a way that reflects an ideological solution: solving one should ideally aid in solving the other. A Fun Machine offers the possibility of managing the incongruities in a creative way to learn something new—not only about the difficult possible ways to understand the "same things", but also the elements that are taken for granted, such as identity, belonging, power, etc. Thus, a Fun Machine challenges the notions of universally agreed upon categories, such as the environmental system vs. the designing system, specific design languages, specific forms of agency, etc. Welcoming these categories means learning to work with mixtures and scrambles.

Fun machines in history

Developed in parallel to Rittel's work on second-generation methodology and Feyerabend's "against methods" debates, a specific genealogy of architectural projects that emerged in the context of post-war Britain can offer insights into possible examples of Fun Machines. Whether these projects are at the scale of objects, such as the Electronic Tomato (Archigram group), buildings, such as the Fun Palace (Cedric Price) or cities, such as Walking Cities (Archigram group), they can be understood as Fun Machines that act as controversy maps, wordplay games or playful judgments of the specific wicked problems in which these systems are immersed. Rethinking these projects as Fun Machines (or play frames), as defined in the earlier sections of this paper, helps to question some of the more popular and well-known historical narratives associated with them, such as how they are often read in relation to the methods discourse in architecture. More specifically, what does it mean to understand the Fun Palace as a Fun Machine? How does it relate to the notion of play frame as identified in the previous sections? How does it help to rethink the relationship between design methods and mess?

Fun Palace

Although the Fun Palace is one of the most critically discussed projects of the 1960s, particularly within contexts where architecture's relationship with second-order systems methods are often discussed, frequently, these predominant readings tend to view it is an

example of certain systems models applied to architecture (Landau, 1985; Lobsinger, 2000; Matthews, 2006). Considering that the Fun Palace was a project collaboratively developed by Cedric Price and Gordon Pask, the metaphor of applying a frame from science to the context of architecture is questionable (Sweeting, 2016b). Pask (1969) dedicated a part of his work to demonstrating the inherent cybernetic (conversational) nature of the architectural design process. According to Sweeting (2016b), the Fun Palace is an example of a second order machine. Not only was it an embodiment of second-generation methodology (conversation theory), it was also an embodiment of the play frame (with its inherent potential of working with multiple levels of abstraction), as discussed in the work of Bateson.

The project resists methodological categories of "end product" or "process", thereby leading to reductive readings by those who choose to categorise it as one or the other. Its playfulness, in terms of its methodological positioning, makes it paradoxically a serious strategy to work with the repressed impulses, displacement, contradictions and questionable power relations of the period, particularly the contradictions between work (labour) and leisure and how the subjects of post-war London were impacted by these contradictions. Price and Littlewood (1968) were critical of the surrounding socio-political conversations that alluded to the idea that increasing allocations for leisure space (periods of self-willed activity) as a feature of city life would, in turn, make the increased amount of time spent in work environments more bearable. They argued that notions of fun and work in a city could become more integrated (Price & Littlewood, 1968). This playfulness is read in the broader context of a move against the planners, but also as an opening towards methodological freedom (Landau, 1985). However, it is important to ask: what kind of freedom? Landau (1985) identified the Fun Palace project as a device that enables citizens to make decisions about the spaces and assigns greater usefulness to them. Therefore, it is anti-architectural to the extent that it shifts total power to the user-system. For Landau (1985), freedom refers to freedom for the users. However, his argument negated the fact that the freedom created through the Fun Palace, or in how it acts, as a meta-frame enables architects as well as citizens to make decisions about the spaces. The project productively addresses what Rittel (1972) called the "symmetry of ignorance" and what Sweeting (2018) called "asymmetrical agency". As a meta-frame, the Fun Palace promotes a breakaway from the frame of behaviours that are representational of categories (architects/citizens). Both categories learn through the confusion created by the intermingling of the categories, and they are left with new premises for the codification of their own roles.

Price and Pask playfully engaged marginalised forms of life in the city, such as factory workers ans housewives, involving them in adjusting and reconfiguring the existing system without the need for interest in or any knowledge of participatorydesign frameworks. Acting as a gigantic playfield (consisting of many learning and play situations), the Fun Palace never asked these participants who they were; instead, it was content with showing them what they could be. The structure (degree of novel parameters) was not confined to merely responding to the choice of activities in which these agents would like to engage. Instead, the structure should create situations that never existed, showing the participants things that they never knew they could do. The abilities of factory workers or labourers were not assumed; they were found within the playful activities. Ironically, the same devices (e.g. pushing buttons) that marginalised and categorised their daily social status were given the power to change the way they were learning, empowering them to rethink their existing system. Instead of proposing alternatives (work vs. labour) and objects that identify within these binary categories, Price and Littlewood (1998, p. 130) used a method to create play frames using caricatures of these devices.

An open system presents many types of flows (in other words changing conditions, multiple users, changes of expectations, changes of material requirements). This open-systemic nature creates the problem of asymmetrical agency, which was previously mentioned. Matthews (2006) noted that the ability of the Fun Palace to deal with the open-systemic nature of wicked problems is due to the fact that it functions as a form of a "virtual architecture". Thus,

he argued that the Fun Palace was a precursor of contemporary digital simulation models. In Matthews'paper, the term "virtual" is in line with the term virtual that was identified in digital theory with a focus on data collection and extrapolation. The variable program and form of the Fun Palace is closer to a contemporary architectural understanding of a computer program: "an array of algorithmic functions and logical gateways that control temporal events and processes in a virtual device" (Matthews, 2006, p. 45). However, when understood as a Fun Machine, it is evident that through play the Fun Palace makes use of the virtual nature of the actual system. The machine plays on the concreteness of the contingency of the situation rather than abstracting from the concreteness or contingency. The Fun Palace could be better viewed as a series of play frames where stakeholders communicate by placing themselves in a context, compromising their bodies on the assumption that the system will play the game. Within this play, the participants have the ability to move or practice the dynamics of displacement that come from passing from one frame to another. It enables the participants to pass from one frame to another playfully and realise that there is no one right action; at every moment, a right action emerges in response to the situation.

Contemporary experiments

The Fun Machines constructed in the context of a studio experiment made use of the play frame to engage with the wicked problems of Dessau. In the context of pilot projects, the play frame uses the basic pleasurable states of playfulness, which arise from the richness of joking, satire, caricature, etc., to model Dessau as a wicked problem.

Scrambling, wording

As a device that navigates between the real and unreal, play frames invite designers to work through the limitations of the existing languages used to frame the problem. Through studio exercises, caricatures or composite words were used to break away from the generally accepted meanings of words and their basic structural configurations. Techniques, such as animating the problem as a living entity or creating funny caricatured creatures that contain the controversies, were promoted. The controversies in the problem were given a verbal form by using compositional words, double meanings, etc. For example, questions about ageism, noise regulations, movement, flows and abandonment were reworded to reveal the contradictions (Figure 4). The limitations of communicating with other stakeholders about the wicked problem were addressed by converting questions of space into cautionary games or cautionary tales with a twist of humour. Within the play frame offered within these games or tales, the contradictions of the wicked problem were exaggerated and, in some instances, projected onto a different setting using an allegory. The designers are encouraged to play with the flow of the problem, animating all its feedback loops and important nodes through caricatures and not using formal languages (Figure 6). This process has provided ways to diagram the process and change the designer's metaphor of what a machine is.

Scaling, mattering

A play frame that focuses on coping with the situation at hand instead of focusing on innovation suggests a different way to approach the scale of a problem within a project. In general, the scale of the problem can range from more technocratic levels of categorising it (according to the ease of operations) to levels that correspond to various forms of meaning generation for each of the project's stakeholders. When related to coping, the play frame is not about figuring out the most operative level of the problem or identifying the most meaningful aspects in terms of public image, etc. Instead, at the coping level, the scale relates to what matters. Thus, what matters is sometimes finding an answer that works spontaneously in a given situation. Card games were played to portray each problem at four different scales to identify the scale that matters when the designer has to cope with the situation. For example, the mattering scale sparked the creation of *Mind-the-gap*, which was a critical reaction to the government's

proposal to demolish abandoned buildings and create landscaped islands within Dessau (Figure 5). While the government's idea was sensible from a meta-urban planning perspective, the paradox of people experiencing these vast stretches of open space was problematic for one of the primary users: young bikers. To maintain the paradoxical requirements expected of these gaps, the Fun Machine (a blueprint for an app) connects temporary playful light installations that instantly create public environments in these dark gaps according to the movements of bikers.

Framing flows, not taming flows

The play frame was used to depict wicked issues as open systemic issues. While most architecture students can *feel* the problem as a flow, they were unable to transfer this flow into a design process diagram because the flow appears to be nonsensical due to the multiple levels of abstraction and complexity. The designers were encouraged to play with the flow of the problem animating all its feedback loops and important nodes through caricature and satire. For example, the social flight simulator was a way to make fun of what its designer called "the flight of the creative capital" and the paradox of how Dessau can be home to such a diverse range of talented people and, simultaneously, have a reputation as a cultural wasteland (Figure 6). The factors that combine to create such a state of affairs vary in scale and complexity. Political and economic factors that affect the site operate at a global level and affect things, such as the housing market, employment prospects, etc. By incorporating these flows in the form of a board game, it is possible to make the inter-relatedness of these decisions more apparent, and the players can be triggered to question their roles in the perpetuation of the state of affairs that give Dessau its reputation. The players assume the role of an international student in Dessau, and they must navigate through the various decisions they must face in their journey until they have completed their studies.

Laughing, clowning

Treating one's designing methods in a humourous way and identifying the scrambled nature of one's own self (as a series of designing selves) allows one to convert the design into a play frame to work through the complexities of dealing with sites that require a commitment to continuously changing complexity. As previously noted, it is often the case that the people at the centre of a crisis situation, and sometimes the ones that are most responsible for it, have the most difficulty escaping the optimisable, functionalist quality of the design methods. Reformers or innovators may have the idea that the world can be changed by applying sane approaches (Fullan, 2005, p. 121). In these situations, it seems more comfortable to negate the contradictions that one sees and ignore the multiple versions of one's self that respond in "other" ways to the problem. The Fun Machine invites one to deal with these numerous selves explicitly by conjuring what is called an architectural clown. The architectural clown – unlike professional architects – has no fear of dealing with confused thoughts, or scrambles. Clowning exercises were conducted, both non-verbally (embodied) and more structurally (with sketches and voices), to identify specific questions one can ask the designing self (Figure 7).

Different clown birthing exercises allowed the students to come to terms with the most common body responses they assimilate when interacting with others. It also allowed the students to spontaneously identify the more contradictory versions of themselves that are often suppressed within the professional practice. The exercises prompted the designers to question which version of their agency is present when they enter a conversation and which version of their agency might be best to work within the emergent situation. Clowns are masters of spontaneously interacting with objects or materials to playfully explore what the material assembly can do. Becoming a clown means creating play frames to work with these objects and playfully engaging the audience to not look at the object as it is (it's a broom, it's a plug point, it's a piece of metal, etc.), but to question what it can be (Figure 7). More often than not, in a crisis moment, designers approach the materials in hand in an attempt to find answers through

typologies (for example, if the issue seems to be the lack of housing, then the assumption is to work creatively to find what the housing unit could be. If the problem seems to be waste, then the attempt is to try to design a waste recycling system or centre). The clown exercises that aimed to convert mundane props that were laying around to create a performative encounter were helpful; when they were later transferred to the problem context, they proved to be a valuable tactic to move beyond typological thinking.

Within the more structured exercises, the clowns were invited to use their trickster persona to voice aspects of their conflicting thoughts that they try to avoid (Figure 7). The designers were encouraged to question the "morally righteous" lenses through which they frame crisis contexts. Reconsidering certain forms of extended altruism – such as narratives framed in the form of "helping the affected" – was a priority. The clown construct was used to reflect on the designers' feelings and to question if they were expressing their ideas and concerns about the issue at hand in the way they wanted. According to Koestler (2014), the jester uses a division of labour – the clash of incompatible codes within one's self – to frame the problem. Making these controversies explicit enables one to actively work on resolving some of these issues and work towards self-development.

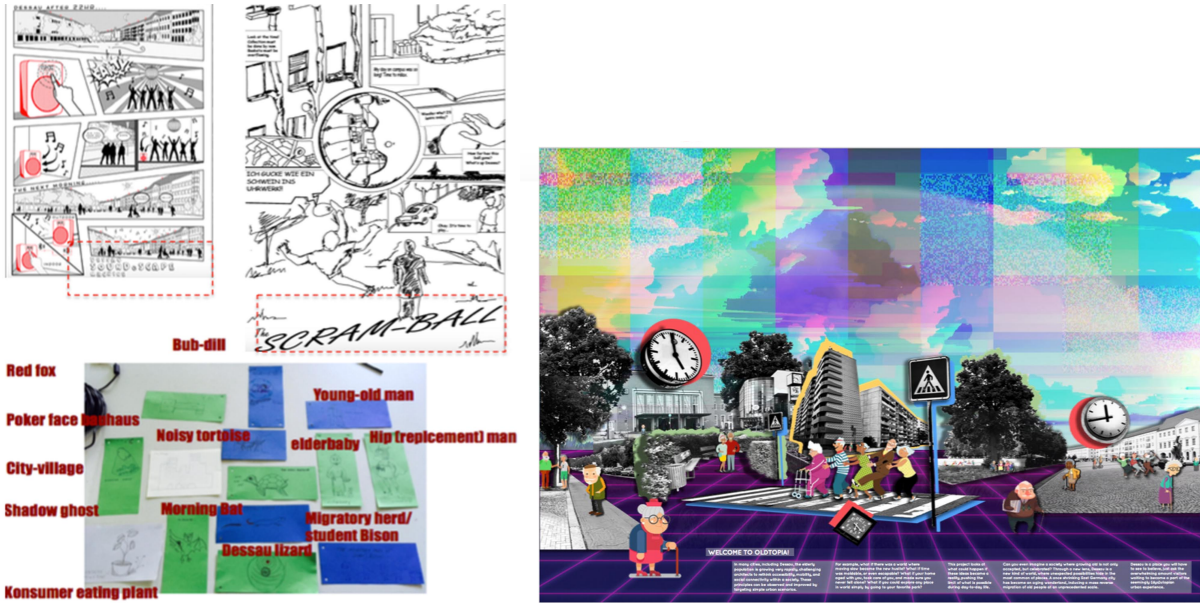

Figure 4. Forms of wordplay. Controversies in the problem are given a verbal form by using compositional words and double meanings. The limitations of communicating with other stakeholders are addressed by converting questions of space into cautionary games or cautionary tales with a twist of humour. (Sketches by Soh You Shing, Taylor Louison, Olivia Ashbrook, Studio Fun Machines, 2018).

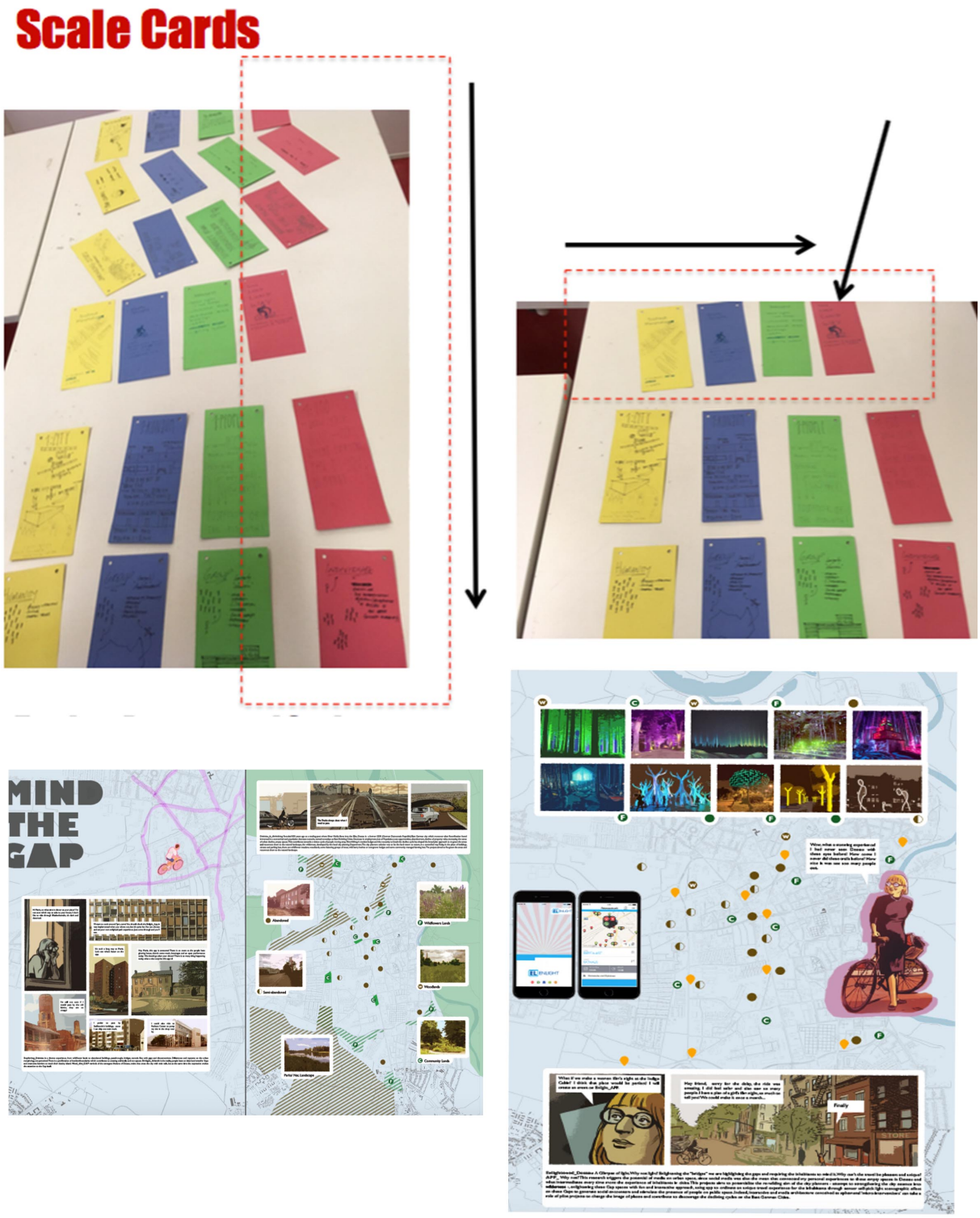

Figure 5. Scaling and mattering. Top: Card games were played to portray each problem at four different scales to identify the scale that matters when the designer has to cope with the situation. Bottom: Applying the mattering scale of bikers to the design problem. (Sketches by Henrique Guimarães, Studio Fun Machines, 2018).

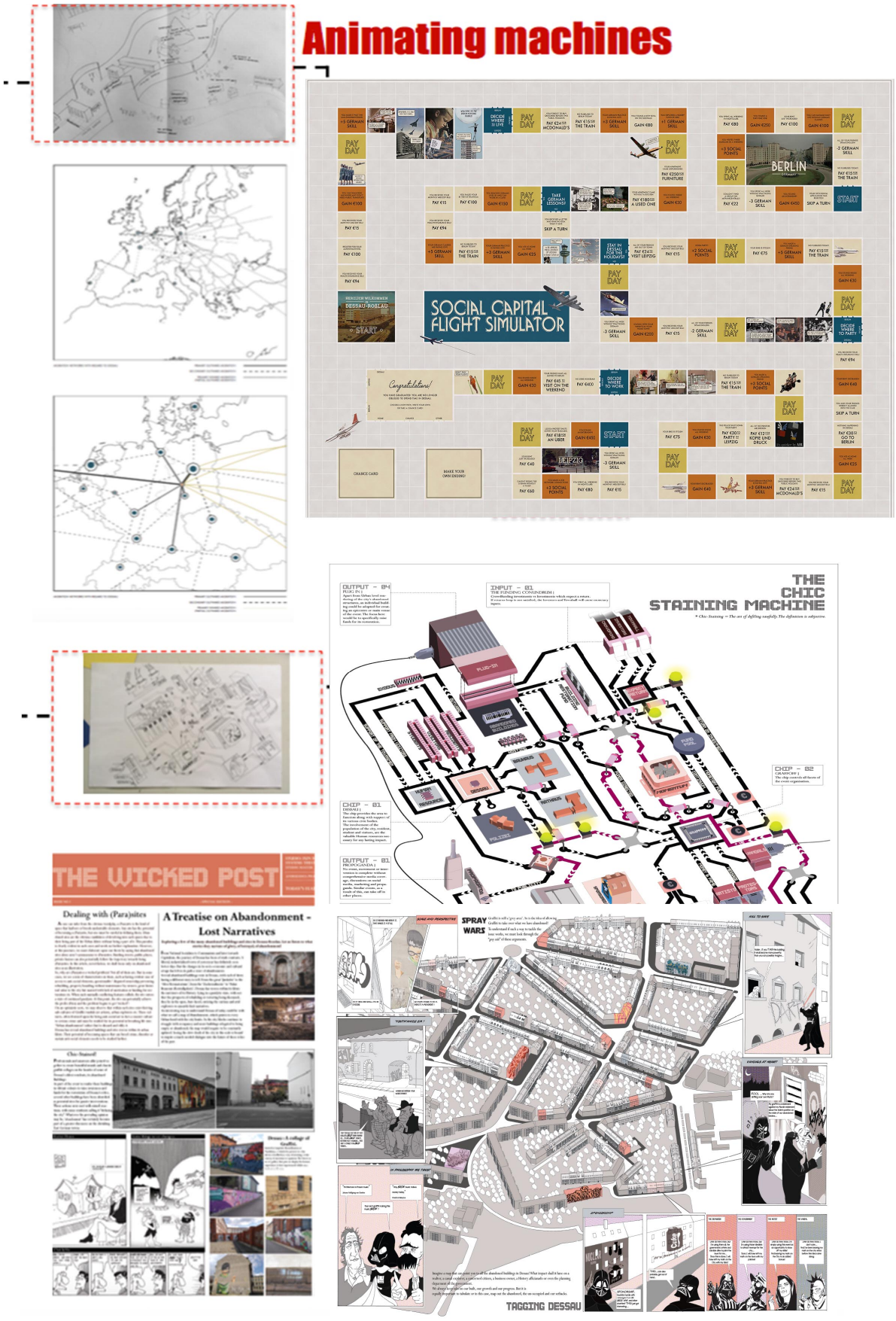

Figure 6. Animating the flows (sketches by Sam Koh, Aniruddha Phadke, Studio Fun Machines, 2018).

Figure 7. Clowning exercises. Top: Finding your clown. Middle: Asking objects what they could be. Bottom: Clowning and one's multiple selves.

Unfinished play

Fun Machines demonstrate that play is a better way to work *through* the complexity of a wicked problem. To do so, they utilise the curious parallels between the structure of play/fun-making (that affirmatively embraces the controversies and paradoxes) and the structure of the wicked problems (characterised by controversies and paradoxes), effectively juxtaposing them within a play frame. The play frame acts as both a process and an object, enabling designers to cope with the situation at hand, and advance to the hoping phase. The play frame is particularly valuable when one considers that, within wicked problem sites, the challenge for intermediaries is to maintain a commitment to the process of change itself, not necessarily to maintain a commitment to a particular reform. Thus, in general, the pilot project makes significant contributions to a broader position on "after methods" that deserve further exploration. First, it distinguishes between the conversational and the playful tendencies inherent within the second-order methods discourse, and it urges one to rethink the notion of the playful within wicked problem sites. As such, it brings to light some of the limitations of conversational stakeholder engagement in its various forms, and it suggests that the playful aspect of engagement provides an interesting mode to maintain a commitment to the process of change. Second, it distinguishes between the coping and hoping phases in a crisis situation, and it calls for a much-needed emphasis on this crucial distinction within the methods phase. While acknowledging that coping can lead to hoping, the project suggests that strategies and tactics are needed to enable the agents to remain in the process regardless of the frustration they might feel in the coping phase. Thus, the play frame is not a methods machine that tries to work with good sense. Instead, it is connected to strategies that enable a designer to navigate things that do not appear to be sensible. As such, it promotes and present ways of working with scrambles. More concretely, it explores how the effort to make sense – particularly as professionals – can delimit the designer's ability to engage with the problem. Perhaps, a bit of clown-sense can go a long way towards working with wicked problems.

Dulmini Perera
Lecturer, Ph.D.
Anhalt University of Applied Sciences, Faculty of Architecture, Facility management and Geoinformation, Germany
dulmini_perera@yahoo.com

References

Bateson, G. (1972). A theory of play and fantasy. In *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology,* (pp. 177–193) San Francisco: Chandler.

Bateson. G. (1955). "The message, 'this is play.'" In B. Schaffner (Ed.). *Group process: Transactions of the second conference* (pp. 145–242). New York: Josiah Macy, Jr. Foundation.

Beeck, S., & Bruckner, H. (2010) *Stadtumbau*. Saxony Anhalt: Grafisches centrum cuno GmBH. Retrieved from http://www.fad.cat/citytocity/2/cat/wp-content/uploads/guanyadora/booklet_dessau.pdf

Conklin, E. J. (2006). *Dialogue mapping: Building shared understanding of wicked problems.* Chichester, England: Wiley.

Cross, N. (1986). The development of design methodology in architecture, urban planning and industrial design. In R. Trappl (ed), *Cybernetics and Systems 86*, (pp. 173-180). Dordrecht: Springer.

Davidova, M., & Zimova, K. (2017). COLridor: Co-Design and co-living for sustainable futures. Paper presented at *Relating Systems Thinking and Design 6: Environment, Economy, Democracy: Flourishing Together,* Oslo.

Feyerabend P. K. (1970). Against method. In M. Radner & S. Winokur (Eds*.). Analyses of theories and methods of physics and psychology*. *Volume IV* (pp. 17–130). Minneapolis: University of Minnesota Press. Retrieved from http://www.mcps.umn.edu/philosophy/com- pletevol4.html

Feyerabend P. K. (1982) *Science in a free society*. London: Verso.

Feyerabend P. K. (1993) *Against method*. London: Verso.

Fry, W. F. (2010). *Sweet madness: A study of humor*. New Brunswick, N.J.: Transaction Publishers.

Fry. W. F. (1987). Humor and Paradox. *American Behavioral Scientist*, *30*(3), 42–71. Retrieved from https://doi.org/10.1177/000276487030003005

Fullan, M. (2016). *The new meaning of educational change*. New York: Teachers College Press.

Giedion, S. (2013). *Mechanization takes command: A contribution to anonymous history*. Minneapolis: University of Minnesota Press.

Glanville, R. (1975). *A cybernetic development of epistemology and observation, applied to objects in space and time (as seen in architecture).* PhD Thesis, Brunel University, London.

Glanville, R. (1988). *Architecture and space for thought* (Unpublished doctoral dissertation). Brunel University, Uxbridge.

Jones, J. C. (1991). *Designing designing*. London: Architecture Design and Technology Press.

Jones, P. (2018). Contexts of co-creation: Designing with systems stakeholders. *Systemic Design: Theory, Methods, and Practice, Springer Nature, 3–52.*

Koestler, A. (2014). *The act of creation*. Milton Keyes: Last Century Media.

Landau, R. (1985). Cedric Price's philosophy of enabling. *AA Files, 8*, 3–7.

Law, J. (2004). *After method: Mess in social science research*. London: Routledge.

Lobsinger, M. L. (2000). Cedric Price: An architecture of the performance. *Daidalos 74*, 22–29.

Le Corbusier. (2014). *Towards a new architecture.* New York: Brewer, Warren & Putnam.

Matthews, S.(2006). The fun palace as virtual architecture: Cedric Price and the practices of indeterminacy. *Journal of Architectural Education, 59*(3), 39–48.

Oswalt, P., Kulturstiftung des Bundes., Galerie für Zeitgenössische Kunst Leipzig., Stiftung Bauhaus Dessau., & ARCH+ Verlag GmbH. (2005). *Shrinking cities: International research*. Ostfildern-Ruit Germany: Hatje Cantz.

Oswalt, P., Rieniets, T., Schirmel, H., 1Kilo (Firm), & Kulturstiftung des Bundes. (2006). *Atlas of shrinking cities*. Ostfildern: Hatje Cantz.

Pask G. (1969). The architectural relevance of cybernetics. *Architectural Design, 39*(9), 494–496.

Price, C. (1979). Technology is the answer but what was the question? Tape/slide presentation, Pigeon Audio Visual, PAV 798.

Price, C., & Littlewood, J. (1968). The fun palace. *The Drama Review: TDR*, *12*(3), 127–134.

Rittel, H. W. J. (1972). On the planning crisis: Systems analysis of the "first and second generations". *BedriftsØkonomen* (8), 390- 396.

Rittel, H. W. J., & Webber. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences 4*(2), 155–169.

Rittel, H. W. J. (1984a). How to know what is known: Designing crutches for communication. In H. J. Dietschmann (Ed.), *Representation and exchange of knowledge as a basis of information processes.* Amsterdam: Elsevier Science Publishers B.V.

Rittel, H. W. J. (1984b). Second-generation design methods. In N. Cross (Ed.), *Developments in design methodology* (pp. 317–327). Chichester: John Wiley & Sons.

Sevaldson, B. (2010). Discussions and movements in design research: A systems approach to practice research in design. *FormAkademisk*, *3*(1), 8–35.

Sevaldson, B. (2011). GIGA-Mapping: Visualisation for complexity and systems thinking in design. *Nordes*, 4.

Sweeting, B. (2014). *Architecture and undecidability: Explorations in there being no right answer—Some intersections between epistemology, ethics and designing architecture, understood in terms of second-order cybernetics and radical constructivism.* PhD Thesis, UCL, London. Retrieved from https://iris.ucl.ac.uk/iris/publication/972511/1

Sweeting, B. (2016a). Design research as a variety of second order cybernetic practice. *Constructivist Foundations*, *11*(3), 572-579.

Sweeting, B. (2016b). *The role of Gordon Pask in the Fun Palace project*. Paper presented at the An Afternoon with Cedric Price #1: A CCA c/o Lisbon Event, Lisbon, Portugal. Organised by the Canadian Centre for Architecture. Presentation retrieved from https://www.cca.qc.ca/en/events/40500/an-afternoon-with-cedric-price-no-1

Sweeting, B. (2018). Wicked problems in design and ethics In P. Jones & K. Kajima (Eds.). *Systemic design: theory, methods, and practice. Translational Systems Sciences* (pp. 119–143). Japan: Springer.

Thöner, W., Butter, A., Pfeifer, I., Savelsberg, W., Stiftung Bauhaus Dessau, Kulturstiftung DessauWörlitz. (2016). *Dessau/Wörlitz: Architectural Guide*. Berlin: DOM Publishers.

Upitis, A. (2008). *Nature normative: The design methods movement, 1944-1967*. (Unpublished doctoral dissertation). Massachusetts Institute of Technology, Cambridge.

Von Foerster, H. (2003). *Understanding understanding: Essays on cybernetics and cognition*. New York: Springer.