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Abstract: This paper is an exploration of how we might improve and deepen our scholarly engagements in designing and theorising design so as to embrace design as an unending, dialogic process. The aim is to bring together ideas on design and form making from a number of theorists who have considered design processes in ways that are now recognisable as a material thinking context. Locating the process of design in the domain between the material and the immaterial, allows us to reconsider how theory intersects with practice and how practice builds unique theory through the process of design. As a speculative platform, it encourages designers and design researchers to reorient their way of thinking through adaptive and responsive engagement with a focus on ethical engagement, social responsibility, environmental protection.

Key words: design thinking, material thinking, ambiguity, design research.

Imperfect In-formation: The Prospect of Material Thinking

This paper is an exploration of how we might improve and deepen our scholarly engagements in designing and theorising design in accepting both the fundamental materiality and the inevitable imperfection of design and its processes. The aim is to bring together ideas on design and form making from a number of theorists who have considered design processes in ways that are now recognisable as a material thinking context. Together, this selection of perspectives form a useful theoretical platform to underpin a broad working concept of material thinking as it relates to designing. The paper had its origins in the notions of material thinking through creative practice as put forward by Paul Carter in his book, *Material Thinking: The Theory and Practice of Creative Research*. Recognizing the implications for research and theoretical orientations in design practice, I compare Carter's ideas about the primacy of material considerations with other contemporary philosophical points of view which provided parallel theoretical expositions through which intersecting notions of materiality and imperfection are magnified; in particular, the writing of, philosopher Vilém Flusser, the historian Fernand Braudel and the sociologist Tim Dant. These three philosophical perspectives offered the basis for a speculative focus, further enriched by the ideas of contemporary design theorists including Richard Buchanan, Horst Rittel, Jonas Löwgren, Harold Nelson and Erik Stolterman all of whom provide referential loci for this paper.

Flusser acknowledges the conditions and ideas of postmodernity and considers contemporary design culture to be in a transitional period, in which it is reconfiguring its practices, considerate of the critical perspective of the postmodern but moving beyond its

involutions and aporias. His philosophical position is, in this paper, a focal point around which I have drawn the ideas of other, aforementioned theorists. Braudel's interest in demography, commerce, technology, their inter-relationships and the material life of ordinary people make his philosophical perspectives particularly appropriate to this discussion. Dant, focussing on material culture, directs one to consider design in its lived, interactive, community context (Dant, 2006).

Living is a process in which humans adapt to natural and man-made objects and environments. It is a reciprocal process of consciously or unconsciously forming and designing through living with material artefacts. Designers are necessarily attentive (if they aren't they should be) to the way they may make and remake the material world in order to adapt it to living in the future. They are equally attentive to the way we humans (including designers) are adapted to objects and environments in this making of future lives. Through creative attention to the material processes which shape our lives, they make material, new forms of and for living. Design can be theorised as an important adaptive process in which designers adjust to changes while making new conditions to suit different purposes. Adaptation is a useful way of conceptualising design because it emphasises the dynamic intersection of culture, environment, the individual and time. It suggests a mutual 'working on each other', a sort of Lamarckian¹ version of adaptive survival. Consequently, design's creative processes are affected by a broad range of concerns: value; cultural attachment; environmental waste; global economics; commerce; ethics and aesthetics and more. What are at first appearance simple projects, become unavoidably complex (Rittel and Webber, 1973). This analysis and framing of the imperfection within design activity is a move towards a better understanding of those processes.

It is important that designers do not shy away from such complexity and embrace the trans-disciplinary interactions that are required in negotiating the wicked complex of investments and exigencies that form, and act on a briefing for design. The role of design research, therefore, should be to articulate the complexity of design's considerations, elaborate ways of designing that are considerate of this complexity and indicate the implications, again complex, of different kinds of design activity. Within the academy, there is a growing field of scholarship (with a brief history) addressing design and formed through design(ing). In this emerging field there is a good deal of confusion caused by the (necessary) importation of theories from other disciplines into design; creating an un-disciplined (sic) base for its discourses. The act of designing, however, is always the primary source of design expertise and must remain the locus of design theory and scholarship. While theory can be honed into orderly, balanced form and persuasively argued, this is not the case with design in practice. The materiality of artefacts and environments in use makes it impossible for designers to achieve perfection across all possible theoretical standards impinging on their disciplinary practices. The way in which designers manoeuvre between the ideal and the attainable is a valid locus for design research.

Vision

Design activity and the products of design have become a focal point in the politics of cultural and personal identity, environmental responsibility and economic growth. Producers (including designers) and consumers are increasingly aware of and concerned about the social power of design. In technologically advanced urban societies, whose citizens have a high standard of living in relation to goods and services, design offers the

potential in a pervasive material way for consumers to represent themselves on a personal level, and defining their relationship to others. This is not a bad thing, but high consumption of goods and services creates high demand for more. The dilemma for the design professions is that without some restraint in the face of consumer demand, they will continue uncritically, to reproduce market driven demands and be ineffective as a catalyst for innovation. Many areas of design practice are now criticised for having lost social vision and moral integrity and there is a growing mistrust of the modernist discourse of progress, universalism, and objectivism. There is a valuable research opportunity here. Designers have a responsibility to continually question modes of production and the ideologies that determine them. In doing this they also need to question their role in the service of industry. They need to stimulate and challenge each other, debating these and other questions so that they understand how they are implicated in the production not only of 'design' but also in social process. Otherwise, the design professions will renege on their responsibilities to contribute to meaningful social (re-)formation. The challenge is to embrace complexity, engage with notions of difference, history, place, identity and the politics of gender, race and class, all of which are specific opportunities for engaging in and better understanding the imperfect materiality of design processes.

Conscience

Design philosophers and theorists have a responsibility to provide a critique of contemporary design projects. Historical accounts of industrial, communication and information design, the previous grounds for discourse on design, have given way under the pressure of new scholarship to a conception of design that embraces a new vocabulary that directs one to consider design in new terms (sic) e.g. difference and subjectivity.

The ultimate purpose or function of design in society is to conceive products which express and, necessarily, reconcile human values concerning what is good, useful, just, and pleasurable. However, these terms no longer possess fixed and generally accepted meanings. Their meanings are the subject of our deliberations. They are essentially contested in society at large as well as in the complex processes of design and product development, although we seldom recognize the significance of the shift and are not well prepared to deal with it productively.

(Buchanan, 1998, p11)

Contemporary design is an ever expanding and diverging field of practice and research, open to trans-disciplinary activity and multi-disciplinary interactions, It is complex in its theoretical and practical conditions. In an essay written in 1989, Andrea Branzi first identified the problems of what we might call a transitional period for design, a period of disaffection amongst designers. He articulated what all postmodernists felt, that the ideals of modernism were failing to provide a unifying ideology of design and world culture. Modernism had failed and an ideal of continued progress towards the perfection of humanity through advancements in the arts, in design, and technological innovation was, for him, and others, no longer valid.

Buchanan elaborates on what he identifies as Branzi's dilemma. Branzi, and designers generally are tasked:

... no longer to design for a universal audience, or national groups, or market segments, or even the ideological abstraction known as "the consumer." Despite the continuing role

of mass-production in many societies, the task is to design for the individual placed in his or her immediate context. Our products should support the individual in the effort to become an active participant in culture, searching for locally significant coherence and connection. Products should be personal pathways in the otherwise confusing ecology of culture' (Buchanan, 1998, p 20).

This is the moral dilemma of 'ends and purposes' that contemporary designers face. It is useful here to distinguish between ends that are inherent in things and activities (which we know or discover about them) and purposes that we impose on things and activities. The wider moral and social responsibility of designers is often set against the aim of design to fulfil immediate social or cultural needs, satisfy desires and create pleasure. Buchanan highlighted the increasing complexity of these inter-relationships and argued that design must be 'tempered and integrated with three considerations that are essential for understanding the range of the designer's responsibilities: the good, the useful, and the just' (Buchanan, 1998: 11). It is a tall order, given the acknowledged complexity that design professionals face in the marketplace today. Buchanan calls for a high level of social and moral responsibility from designers to understand not only their overlapping disciplinary fields but the world of politics and economics as well. Could this expectation be just a utopian ideal buried in a dystopian ideology? Is the notion of the perfection carried in 'the good, the useful and the just' a necessary quixotism enabling designers to function without cynicism despite their acceptance of the inevitable imperfections of design? When the design professions accept this notion of imperfection, it may open the way for more honest questioning of design activity and the purposes to which design activity is directed.

Complexity

Complexity is an underlying and inescapable condition for contemporary professional designers in all fields. An extreme example can be seen in computing science, software development in particular. Software consumers or clients have different perspectives on problems and functionality from designers and developers. For example, users may be disinterested in having the full range of functionality offered in a single software package designed by developers eager to capture a market with more functionality and more novelty than the competition. Some users might prefer the ease of limited, specific functions with reduced complexity. User needs and desires are notoriously difficult to express precisely and communication may be ambiguous. The methodologies used to unpack user needs, such as questionnaires, probes and focus groups are crude instruments generally. They deal with the present only and are unable to take account of changes in attitude, adaptation to available products or future needs. More importantly, the desires and preferences articulated by individuals are never able to be averaged.

Knowledge of users, their needs and desires, is at best partial. Designers make guesses and fill the gaps with assumptions in creating designs that attempt to answer these unexpressed desires and needs. Adding to this underlying complexity of identifying the drivers for their designs, is the increasingly demanding challenge designers and developers face in attempting to fully understand the subtleties and operating potential of the powerful software applications they are developing. It is difficult for an individual mind, unaided by other minds and machines (computers) to grasp the enormous and complex demands of the software applications that are developed.

Such complexity demands attention to all component parts of a design process as well as to overarching systems and this in turn requires working processes that take the focus of attention back and forth across all the terrain. Typical adaptive and iterative design processes allow for this movement back and forth and tend to encourage reflective phases, allowing for the recognition of unexpected possibilities or unplanned meaning. In a paper presented at the 2006 SIGCHI conference on Human Factors in computing systems, Vetting, Wolf et al. make a case for creative design as a powerful form of 'praxis' that incorporates 'rational action and reflection on decisions within the context of design activity'. They use Löwgren's (1995) distinction between *engineering design* and *creative design*, to propose They propose four overlapping professional qualities inherent to such design praxis/culture: 1) a non-linear process of intent and discovery, 2) design judgment, which is informed by a combination of knowledge, reflection, practice and action, 3) the making of artefacts, and 4) the design critique (Vetting Wolf et al., 2006, p 524). While this theory of practice originates in the computer/human/interface field of design (CHI), I would suggest it highlights essential qualities and a rigorous methodological orientation for dealing with complexity in all areas of design and it represents an approach consistent with, and attentive to, characteristics of emergence and imperfection in design solutions. If we acknowledge complexity and also buy into Flusser's notion (1999) that we are in a transitional phase of cultural and design thinking, we open the way to ask some exigent questions about performance and value, not only within the design profession but also for academics and educators.

Discursive Layers

Let us look at some related philosophical perspectives and consider how they could contribute to a reframing of design as a practice that: challenges the politics of production and profit; activates and enables communities to thrive and adapt; creates systems and artefacts for action and choice; empowers individuals and is enriched by local cultural differences.

Flusser was a critical commentator on many aspects of art and design and offered a liberating perspective on the process of designing. His writings theorize the on-going cultural and intellectual shift from what he termed "linear thinking" (based on writing) toward the various forms of multi-dimensional, visual thinking embodied in communication through images and in digital culture. In Flusser's opinion, the new technologies and altered approaches to communication are evolving into a "telematic" society in which what he terms 'the image code' is displacing the linearity of a logic of causality evidenced in the code of writing.

The linguistic basis for Flusser's position is the word 'design' itself. Design comes from the Latin word *designare* meaning to 'mark out the world'. Flusser challenges us to consider design in a broader context (than that held in the disciplinary bracket) and question its relationship to technology and aesthetics, and, further, its intersection in the complex agendas of science, and politics. Flusser's etymological analysis, is a useful diagnostic in better understanding the important place design has in society. He highlights the dynamic and interactive potential of design thinking when he refers to the English word design in use as both a noun and a verb; and particularly as 'verb' with active notions of 'intention', 'planning', 'scheming' and 'plotting' etc. (Flusser, 1999:17-18). Flusser recognized the ways in which new, image based and digital communication forms can have a liberating and enriching impact on society. The sophistication and choice of access to communication technology increases opportunities for people to communicate

on all levels across disciplinary and physical boundaries, making dialogue the most important interpersonal and intercultural concern. In this sense both Carter and Flusser place high value on discourse as an important feature in a design process.

Prior to Carter and Flusser, Rittel also recognised the importance of dialogue and argumentation in the design process. Rittel knew that one designer alone could not know, or track, all variables in the movement from what exists to what is possible and desired in the complex nature of most contemporary design practice. He argued that design processes require that many people talk to each other - deliberating and arguing over possibilities - in order to find solutions to the 'wicked problems' (Rittel: 1973) that present to designers. He conceptualised the design process as argumentation and criticised traditional, more scientific, formulaic processes when he introduced the notion of 'wicked problems' (Ibid.). He suggested that complex design problems, planning in particular, required cybernetic, goal-oriented dialogic processes involving feedback. His conviction that design is argument makes an interesting parallel with Flusser's ideas on design thinking and together they underpin the more contemporary line of theoretical framing which comes from Paul Carter's analysis of collaborative conversation as material thinking.

Referring to the creative collaborations described in his book, Carter borrowed a metaphorical image from Thomas de Quincey who described the character of discourse as, lines on the surface of the ocean marking the passage of thousands of trading vessels. The multiple single lines of passage criss-cross over each other, ultimately weaving a pattern of thickened blots and marks where many passages intersect.

This is an apt image of remembering beyond nostalgia. It captures the way in which creative collaborations individually create undistinguishable blots. It also suggests how, collectively, their appearance makes possible a new by reflection on their relation with one another. And it is out of these implicated processes that a third apprehension emerges. When it emerges in this way, it constitutes material thinking. (Carter, 2004, p 5)

Carter is referring here to the important dialogic processes inherent in creative collaborations through which the material of thought, as much as the materiality of objects, is the subject of creative work and of invention. He describes the way in which the material world exists between collaborators who contribute the discursive performances which result in the materialisation of their thoughts and ultimately the inventions of their joint work. It is an optimistic way of viewing the creative method that collaborative artists and designers use in constructing the world. The process of collaboration destroys some original ideas while it evolves into something potentially larger, more generous than each might have been on its own, but it still only approximates the original ideas. In this context it makes sense to analyse all artefacts (or outcomes of discursive design processes) as interim, imperfect markers/developments in an on-going progression towards appropriate but approximate solutions for the time. Acceptance of the inherent imperfection of any design has a powerful and useful influence on the way in which we approach processes of analysis and critique in our capacity as users, designers, researchers or academics. Acceptance of imperfection should also allow a wider set of relationships into the collaborative ring: producers and consumers; subjects and objects; human factors and non-human phenomena all of which contribute to a larger scoped, relational materiality.

Imperfect In-formation

Based on his observation, Flusser suggests that the work of design and designers, in the activity of giving form, lies in the domain between the material and the immaterial. He uses the term ‘materialising culture’ to refer to the way we give material shape to theoretical models and conceptual forms such as the conceptual form of a table which may be realised in different physical forms using different materials (Flusser, 1999: 28). In the chapter on Form and Material he makes a cogent argument about the in-forming of materials and the inevitable distortion of concepts/ideas/forms as they are temporarily imposed on the material world. He argues that ‘form’ is the opposite of ‘matter’ (Flusser, 1999: 26)ⁱⁱ and puts forward an interesting proposition about the relationship of design, form and matter, referring to the actions involved in working through this inter-relationship as in-formation.

What is at issue is the concept of in-formation. In other words, imposing forms on materials. (Ibid.: 28).

Flusser’s ideas open a way to reconsider how theory intersects with practice and how practice builds unique theory through the dynamic processes of design, in particular, his idea that forms are the containers of models/ideas which are then made into a physical or material stage temporarily. Framed in this way, the transitory nature of the physical artefact, limited by the materials of construction or the systems in operation can be understood as being imperfect in relation to the more lasting, pristine condition of the idea or design. The artefact itself, the processes that lead to its realisation and also its lifespan in use are all part of the in-forming of design. It is through practice that all the messy modification, conversion and adaptation becomes evident and where the designer’s diacritical capability is honed in the realisation of idea into material form. Design in practice is where all the valuable starting points for scholarly discovery and theory building can be found. Flusser’s position supports the notion that design theory must come out of design practice.

Carter identifies a similar theoretical argument. He asserts the value of invention as the obvious focus of creative research, describing its location within the performance of creative activity and always in the context of social relations. An idea takes shape when it had been subjected to verbal, visual or tactile explanation. Only then does it become the object of discursive and collaborative attention, a process that continues to hone the idea, during its realisation as an artefact and afterwards.

It is this back-and-forth or discourse, that provides the testing-ground of new ideas, and which establishes their interest. From the point of view of creative research, materials are always in a state of becoming.

(Carter, 2006, p 8)

If, as Carter asserts here, the physical and cultural materials of design and creative practices are always in a state of becoming, then it follows that we could conceptualise their forms both in development and in production as temporary and imperfect in-formation. Viewing the design process in this way may encourage a stronger, sustained position of criticality, sensitivity to difference and expectation of alternative outcomes, conditions that will encourage designers to recognise problematic issues and challenge the parameters and assumptions in play. The conduct of research and development, the nature of our critical discourse and research reporting might all be affected by reframing the design process as a ‘materialising’ process to use Flusser’s term, a process in which flaws

and weaknesses of designed artefacts are regarded as important and useful aspects of an on-going process, valuable points of departure for research activity. It might be useful to consider how the dissemination of design research and the transferability of design knowledge could be affected and liberated by such an interest in the imperfect process and products of design, focusing on design and production as a more fluid, adaptive, responsive and re-constructive enterprise.ⁱⁱⁱ

Material Action

In relation to design inquiry and design action, Nelson and Stolterman (2003) differentiate between creative *thinking* and innovative *activity*. 'Design is inclusive not only of creative thinking but includes innovative activity as well. Innovation differs from creativity in that innovation is action oriented' (Nelson and Stolterman, 2003: 4-5). This orientation toward action is the location of material thinking and sensitivity to the materiality of systems and physical things. The word 'material' in this context needs to be differentiated from conservative practices of material design that are limited to the stylistic treatment of objects or the material improvements that so often masquerade as new design. Quite the opposite, material thinking is put forward here as a concept that embraces the emergent qualities in artefacts or systems - as they operate in the world of human activity. When Nelson and Stolterman declare that 'A design is always a composition', they explain this in relation to the intrinsic 'ordering system', 'substance', 'character and appearance' of specific designs (Ibid: 208). In their discussion of the fundamentals of design thinking, the authors argue that while design deals with the man-made world, it is also a service oriented and socially responsible activity which may simultaneously be directed at reducing unsustainable activity and the misuse of physical resources even when communities are unwilling to give up such selfish materialism. They also compose a list of the design thinking skills needed for such responsible interaction with the world, which include: 1) skills in interpreting and measuring needs and parameters in the context of given situations; 2) judgement in relation to the quality of proposed solutions and 3) a sense of moral responsibility to 'take care of' the artefacts produced. This selection from their list are points that focus on key designerly material thinking skills which I believe form the basis for deeper scholarly engagement with design and a proper level of social responsibility for design action. Furthermore, creative concepts and innovative activity are only possible within the material world of time, space and things, which means that artists and designers who cultivate their sensitivity to complex, material contingencies are better placed to achieve significant results. Artistic and design practices involve sensitivity and judgement in relation to materials and material processes that may operate outside of intentional control, opening the scope of a project to an even wider range issues requiring decisions and potentially, more scope for imperfection. Scholarly engagement in the understanding of such designerly material thinking is a valuable component in building the theoretical field of design and understanding designing episodes.

Living Material

The dynamic processes of designing are intertwined with the equally complex cultural and sociological relationships that humans have with material/designed objects and spaces. The functional relationships users have with things they use and objects they collect are only one part of the picture. In his analysis of economic developments leading up to modernity, Fernand Braudel engaged an integrated view which he explained using a series

of themes such as food, costume, lodging, technology etc. (1992: 27). He conceptualised material life not only in its geographical and historical complexity but also with an emphasis on the ordinary life of people, their local customs, behaviour and innovations in material life. Diverging from the classical view of his contemporaries, Braudel assumed a sociological perspective that took into account the practical everyday aspects of material life as it was lived and experienced through direct interaction with objects and material innovations. He understood the interrelationship between humans, the material things in their lives and their cultural and social adaptation, a useful conceptual frame for thinking about contemporary design practice. The nature of those interrelationships opens an interesting field of potential activity for designers to expand the scope of their material projects and to take more interest in broader socio/cultural issues. It also points towards a significant area for reflective, practice-based research activity. There is a great deal to be learned from seeing and hearing the world as it flows around us, taking time and care in observing its particular characteristics and nuances, allowing ourselves to respond to our feelings and then to react with all the information we have through designed interventions.

The human body 'is not only an object among all other objects, a nexus of sensible qualities among others, but an object which is sensitive to all the rest...'
(Merleau-Ponty, 1962: 236)

Designed objects and environments affect social relations in a fundamental way. Both in terms of cultural expectations and in terms of how we adapt to the built/made world around us, all design affects the ways in which people relate to each other and to their communities. Dant (1999) is of the opinion that all things carry meaning and reveal something about us through the way we use them and adapt to their presence in our lived environment. He suggests that buying or acquiring an object is only one indicator of meaning. The use of objects in our daily routines, the adaptation of artefacts to our preferences and all of our material consumption carries meaning and reveals something about us. The household appliances and furniture we choose, the clothes we prefer to wear, our reactions to technological devices like cell phones or electronic mail are all revealing social, cultural relationships. Dant (1999) observes the ways in which we interact with material things and makes an argument for much closer scholarly examination of how we live with things and particularly how they affect the way we relate to each other. He challenges us to consider the connections between material things and social processes like fashion and art in our discourse around these processes.

Designers need to take account of how social and cultural relations are today, more than ever, mediated through material artefacts and further changed over the lifespan of artefacts. We adapt through our use of artefacts and we also adapt artefacts to our changing needs. This is particularly so in communities where material culture provides a high level of choice in consumable products and services. Contemporary design must take into account this broader perspective on designed artefacts and material culture, a perspective that acknowledges social adaptation and individual intervention in the ongoing 'in-forming' of designs. When designers engage in this way, it could be called designerly material thinking. As an alternative framing of design activity, this kind of engagement with the social 'performance' of materials and objects gives designers and design researchers a valuable source of information with which to underpin and interrogate their design activity. It opens and activates an ethical dimension in designing which must be an increasingly important consideration in the future.

Dant (2006) illustrates the challenge of material culture in a way that I believe emphasises the importance of ethical and relational perspectives in contemporary design practice. One particularly good example he uses is water. Water is crucial to life and has always had a significant impact on many aspects of social organisation. The management and design of water access and water use affects population distribution, food, hygiene, trade and wealth. Because it is an essential element in human life, it makes a compelling illustration of how all the technology, systems and products associated with its use affect human interactions. The artefacts associated with water access and use affect, even determine, the relationships individuals have in communities. Water pumps in villages, communal baths in cities, fluoridation in water supplies are unambiguous examples but there are numerous other large and small examples that affect or determine social interaction from dock-side redevelopments to disposable bottled water in all its flavoured, enriched varieties. These are all compelling examples of how design developments and technologies focussed on water, shape society and are re-formed through use, adaptation and modification, the inevitable effects of combined and reciprocal actions between people and things.

Imperfect In-formation: without conclusion

Throughout the whole process of designing objects and other artefacts, it is not an easy task for the designer to maintain a broad inclusive perspective that adequately includes all stakeholder expectations as well as consideration of the material and social factors affecting the work. Furthermore, there is the impact of time and use to be considered; to take account of the complete life cycle of the object including possible human/object relationships and social change as well. This is a difficult proposition and designers will often fall short of their optimal intentions. Design is a limited, imperfect process in that respect. However, in acknowledging this imperfection, designers may be better placed to search for and identify those weak seams and problematic affects of their work. The scope of the proposition is enormous. Designers are faced with the apparently irreconcilable drive towards more production and better products while contemporary social and ethical responsibility is pointing towards less production, more re-use and more responsible material handling in production and in the re-cycling of production materials.

This predicament may well lead designers to seek out collaborative provocations for the specific purpose of strengthening their critical stance. It may also open the way for designers to embrace wider spheres of incoming information in order to anticipate possible relationships and social effects that might result from their work and it may change the way in which the quality of design is evaluated, allowing designers and users to accept more open affordances in the process. For design researchers involved in building the theoretical field, the ideas put forward in this paper are just a small part of a developing trend towards design practices that are ethically engaged, socially responsible and environmentally protective. I have brought together points of view from several theorists and philosophers whose ideas seem to intersect around key notions of materiality and imperfection, offering a speculative platform for designers to reorient their way of thinking through adaptive and responsive engagement; to embrace design as an unending, dialogic process.

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