



Service Design in the Context of Complexity: *Moving between Plurality and Tension towards a Future Research Agenda*

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Introduction

Expectations on service designers are rising. The diversity of communities or sets of actors, for example, require greater consideration of potentially diverging priorities or preferences. Consider the design of public services for and with socio-culturally diverse communities, or the design of service solutions for global or hyperlocal markets (see, e.g., Hyysalo et al., 2019; Spencer & Bailey, 2020). This pluralistic world harbors avenues for collaboration and consensus, as well as competition and conflict. Common service design decisions around what is good or advantageous in a specific context can be pluralistic in nature and hold potential for tensions (Ylirisku & Arvola, 2018). Across teams, organizations and/or societies, for instance, service designers often need to facilitate ‘the new’, challenging trusted structures or certainties. Political maneuvering can thus easily become a centerpiece of a service designer’s day-to-day attention; on one hand, needing to be aware of and making sense of phenomena such as con-/divergence, im-/balance or in-/compatibility; on the other hand, needing to be able to navigate and curate complexity in a way that the service design processes and solutions effectively deal with such.

Let us consider a trivial yet illustrative example of complexity in a designer’s world: the rendering of a persona (Pruitt & Adlin, 2006). In the making of a persona, the plurality in the empirical foundation for the persona is reduced into archetypical descriptions that delineate a specific yet fictive user while symbolizing their human goals and needs. Sometimes this is done with formal methods, such as with the repertory grid technique or cluster analysis (e.g., Kelly, 1995; Fransella, 2003; Lee et al., 2020), at other times it is done based on informal or subjective methods, such as designerly judgment or principles (see, e.g., McQuaid et al., 2003). In the archetypes that personas express, there are already potential tensions, not only of whether or not they are relevant and/or representative, but also how that relevance and representativity came about; how the translation from a larger number of people to an archetype was done, a process that is often influenced by diverging work experience, value systems and meaning structures among those involved in

making the persona. Moreover, in the use of personas, purposes can vary considerably, such as from day-to-day design tools in design teams, to understanding them as expressions of underlying social structures in participatory processes. The design context and design process can thus create a multi-form plurality that spans over the method of aggregating insights about people, the articulation of the persona, the purposes of use, as well as the socio-cultural environment and users of the personas.

Plurality and tension are entangled phenomena framing and influencing service design research and practice. Their entanglement warrants a deeper look at their nature and relationship. That is the purpose of this special issue of the *International Journal of Design*. Resulting as an initiative out of ServDes.2020 hosted by RMIT University in Melbourne, Australia, and in earlier collaboration with Professor Carolyn Barnes, this special issue is based on a call for papers addressing “Service design in the context of complexity: Tensions, paradoxes and plurality.” We kept the initial call for papers relatively broad to invite a range of topics and perspectives. As we were curating the special issue, the emerging papers tended to focus on the relevance and interconnections of tensions and of plurality, while seeking ways to identify, deal with, organize and educate for these and their implications. With this special issue we hence seek to advance service design theory and practice in the context of complexity, opening up for topics concerned with manifestations of plurality and tensions in situations of designing, and contexts of service. We first develop an introductory, tentative framing for plurality and tensions. We then present a summary of the six articles in this special issue. Moreover, we offer a development of some entanglements of plurality and tensions, considering their nature, interconnections and dynamics, with a view of providing a foundation for an extensive agenda for future research.

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An Introductory Framing of Plurality and Tension

Plurality and tensions—taken individually—are relatively wide concepts. Combining both does not necessarily create a narrower focus. As concepts in service design research, they are exposed to a dominant pattern in design research; namely, to rely on theories and insights from other disciplines, such as the social sciences and humanities. Researchers from these disciplines might contribute with knowledge regarding *phenomena* (what something is), the *mechanisms* (how they work), as well as *theories* (how to understand them). However, design research in its knowledge creation is additionally concerned with *making these phenomena, mechanisms, and theories available* for research (representing and embodying them), with *acting generatively* with these (creating new meaning through them), and with *engagement in transformation* (putting them to work). In connecting different disciplines and to leverage their potential contributions, alternative paradigmatic lenses (e.g., economic rationalism, existential humanism, institutionalism) can serve the purpose of advancing knowledge about plurality and tension as much as alternative research philosophy stances taken (e.g., positivist, constructivist, critical realist). This way, interdisciplinary contributions can help bridge different levels of theoretical abstraction and inform, for instance, midrange theories that are theoretically driven (e.g., new concepts or frameworks) and substantive theories that are practice-driven (e.g., empirical manifestations or situated enactments). Moreover, interdisciplinary approaches can help bridge the connection between practice-based research and theory development and other research approaches from the social sciences and humanities on the one hand. On the other hand, this also supports the connection between speculative or generative research and conceptual development and other research approaches from design research. Studying plurality and tension in service design research is inherently influenced

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by these different considerations, whether discussed explicitly or not, and also shapes views that frame conception of complexity. In the following, we will rely on a simplified juxtaposition of an essentialist and a constructivist perspective, with the intention to open up conceptual understandings and a variety of framings, without claiming that these are the only possible or meaningful perspectives to do that. The main difference viewed here between the essentialist and the constructivist is whether one assumes that the concept is available for study directly in the empirical material (essentialist), or that the concept is construed through engaging in studies of the concept (constructivist).

Plurality can be regarded as an inevitable condition of any empirical context, and as a consequence of acting in or on any empirical context. Plurality is thus a given part of the structural environment at a specific point in time when a researcher views or interacts with a specific context—the plural space. However, plurality can be difficult to define or agree on. Acknowledging alternative interpretations based on underlying schools of thought, plurality may manifest in coexisting, (non)intentional differences and uniqueness (e.g., what/who people or groups represent, their situated praxis, their meaning of, and language about resources). While plurality may not be a first-order quality of a specific object of study in an empirical context, it is not merely a theoretical construct. Plurality may not be visible, which is not due to that it is not there, but due to the position, perspective or methods used in a context. Moreover, it may deliberately be suppressed through positioning, limiting perspectives, and restricted provision of methods. An essentialist approach shares the initial assumption that plurality is not becoming, and a constructivist approach may give the necessary leverage to advance our understanding of it. While plurality in itself is not something that is made, our actions may have consequences on how plurality is made manifest. In light of this, to claim that an action leads to an increase in plurality, that plurality is made, is more difficult than claiming that it increases the sensitivity for, maturity towards, and influence of plurality. In direct interaction between actors in a service system, plurality, or the lack thereof, can be seen as a consequence of various factors such as competence, framing, norms, or power. Enabling actions and processes in systems are part of forming and reproducing those illustrative frames and norms, exercising power over how and what plurality is allowed as a consequence of others' actions. In transformation processes, using approaches that open up variety in whose knowledge and what types of knowledge that is used in transformation, has consequences for the role of plurality, also in the wider contexts that are related but not part of the transformation process. That is, in a constructivist approach, among other aspects, time, sequentiality, and scaling will play a role for understanding plurality.

Tension can be viewed as an essential characteristic of a relation, and as fundamental to the structure and functioning of systems. Assumptions about relations, through differences, mediation, power, or directionality, for example, give arguments for, and analytic power to, describing the nature of tension in relations. For the purpose of this framing, we view tensions as coexisting diverging forces, which might be grounded in incompatible viewpoints or interests leading actors to feel torn

in a situation. Tension can thus manifest through imbalanced, conflicting, or competing conditions as part of a relational context. When viewed bottom-up as sets of deliberately made or emergent relations, systems will be dependent on the tensions of the relations. Power and mandate, for instance, can create tension, or be seen as creating tensions, necessary for the functioning of the system. When viewed from a systemic perspective, tensions are part of a dynamic interplay between system elements that are inflicted or inhibited by overarching influences, and tensions that are playing out an influence in parts of the system. Therefore, scales, as well as position and perspective, play a role for understanding tension. Tensions can also be viewed as an aspect that is open for making, in connection to making relations and making systems. The object and materials open for making and design are shared between relations and systems, but approaches and methods may differ. Understanding the effects of making certain tensions, and of making them matter, need to be integrated with the understanding of why those effects ensue. Tensions are also something that can be put to use in relations and systems across situations and contexts. Together with understanding effects and consequences, purposes play a role in understanding tensions in making. When viewing the making of tensions with a systemic perspective, aspects such as how tensions influence each other and how tensions spread in systems or how tensions are diluted contribute to the understanding of tensions. As tensions can be viewed as becoming, the duality between an essentialist and a constructivist approach, as well as other paradigmatic and philosophical stances, demands delicate navigation.

In essence, this means that the two, plurality and tensions, may be part of the same empirical context or conceptual system of knowledge; but it is not evident that they can necessarily be given due attention simultaneously. Should one venture into research on both, careful methodological considerations need to be made so as not to make the two concepts incommensurable. Theoretical framing, objects of study, positioning, and perspective are likely to influence how an empirical context is approached, as well as influence what can be revealed and what will be hidden.

The Articles in This Special Issue

The articles in this special issue seek to explore complexity in service design with diverse topics and perspectives. In particular, they contribute to enriching discussions of plurality and tensions as perspectives on/within complexity. In these articles, plurality and tension are explored through different objects of study, through the individual and the interactions considering dignity, power dynamics, and disruptions on one hand, and through systems on the other hand, considering organizational, social, and cultural systems.

The first article, 'Narrating service design to account for cultural plurality,' presented by Duan, Vink, and Clatworthy, challenges a dominant service design view of culture and service design practices, arguing for a needed pluralistic conception. To critically reflect on the extant monolithic view of culture, the authors identify four patterns of dominant service design narratives from the literature and build service design narratives representing the patterns from interviews with service design

practitioners. In so doing, they critically investigate, with the support of rich contexts from the interviews, how these dominant service design stories over-simplify heterogeneous practices of service design. Based on this reflexive research, the authors contemplate a crisis in service design and indicate the need for a pluralistic view of culture and praxis towards heterogeneity among diverse service design worlds.

In the second article, 'Social structures as service design materials,' Vink and Koskela-Huotari frame social structures as important service design materials and provide a processual guide for service designers to work with social structures. Drawing on institutional theory, the authors develop the concept of social structures as service design materials into a conceptual framework that reflects invisibility, duality, and multiple institutional pillars of social structures. Also, a practical six-step process for working on social structures as service design materials is proposed. The authors highlight the importance of capturing plural institutionalized social structures held by people because these variations can play a critical role in exposing and changing social structures through service design.

The third article, 'Beyond good intentions: Towards a power literacy framework for service designers,' presented by Goodwill, van der Bijl-Brouwer, and Bendor, pays attention to the issue of inequity and power imbalances, which may emerge from complex service systems with more relational tensions. The paper considers the nature and role of power in service design practice. Drawing from social theory on power, the authors develop a framework for power literacy in service design, based on interviews with service designers and systematic combining of extant theoretical perspectives. The framework consists of five forms of power, which are privilege, access power, goal power, role power, and rule power. The authors suggest that reflecting on power literacy may contribute to better realizing design justice and equity in service design.

The fourth article, 'A designerly approach to exploring disruptions in service: Insights from employing a systems perspective,' introduced by Rodrigues, Blomkvist, and Holmlid, examines disruptions and tensions arising among networked actors in a healthcare organization. Informed by systems design principles, they recognize disruptions and tensions as issues related to the interactions and relationships of actors rather than individual employee actions. Through an interview study supported by the design-driven technique of card mapping, the authors identify eight patterns of disruptions among actor network relationships and structure them into a disruption ripple model. After investigating the disruptive situations, they also articulate five tensions that may arise when responding to the disruptions, relating to factors such as managing multiplicity in relationships, expectations, and culture.

The fifth article, 'Service design and organizational change: Translating innovation in the public sector,' presented by Seravalli and Witmer, focuses on the concept of translation as a lens to understand organizational change in the public sector and to inform design actions for change. Considering the translation process, the authors discuss the role of designers and objects in engaging people with potentially differing views. Thereby, the authors introduce

translation objects (vis-à-vis boundary objects and foreign objects) as a tool to balance tensions between reproducing existing organizational practices, structures, and assumptions on one hand and challenging them on the other. Describing three public sector innovation cases, they stress the importance of balancing tensions and consider power dynamics arising in the translation processes, while mobilizing internal organizational knowledge.

The sixth and final article, ‘A Study of dignity as a principle of service design,’ written by Kim, introduces the concept of dignity as a potential principle in service design. Through a philosophical and historical literature review, the author proposes a framework of dignity, consisting of four dimensions: merit, autonomy, universal rights, and interpersonal care. The author presents research questions and agendas for service design based on the framework of dignity and proposes tools to integrate dignity in the service design process. In this article, dignity serves as an informing principle to deal with a plurality of needs and tensions among multiple actors in service systems.

The articles in this special issue all build on service design theorizing, at an intermediate level of knowledge contributions, yet they operate at different levels of abstraction and feature different research foci. On one hand, some papers provide accounts of tensions and/or plurality directly and explicitly, offering conceptualization to support development of practice as well as theory building. On the other hand, some papers provide a more indirect account of these and offer theoretical foundations or implications for understanding and dealing with plurality and/or tension. Taking an alternative perspective, papers in this special issue move mainly between more concrete substantive theories that are grounded in practice and more abstract midrange theories that are focusing on concepts and frameworks without context specificity. For example, Kim provides an important midrange theoretical contribution by engaging with different theoretical lenses to conceptualize the phenomenon of dignity in service design, which can inform both plurality and tension considerations or operationalizations in practice. Similarly relevant for both plurality and tension, Vink and Koskela-Huotari theorize social structures while providing a conceptual framework supporting the

sensemaking of such, before transitioning into a practice-driven process to attend to social structures. Focusing largely on plurality, Duan, Vink, and Clatworthy study the enactment of service design practice to uncover concrete manifestations of rather disciplinary singularity and future plurality opportunities. In contrast, Goodwill, van der Bijl-Brouwer, and Bendor as well as Seravalli and Witmer, in their work related to organizational or system development, are rather encountering tensions in conjunction with power dynamics and designerly work. While Goodwill et al. move closer into the more abstract, midrange theoretical space in proposing a power literacy framework by systematically combining empirical and theoretical research insights, Seravalli and Witmer remain rather focused on empirical manifestations of designing for organizational change. For instance, they empirically identify the role of translation objects as part of a practice-driven and practice-oriented account of designers’ actions. Finally, Rodrigues, Blomkvist, and Holmlid empirically uncover a set of concrete types of tensions that occur across disruptive situations among system members and their relations.

In combination, the papers in this special issue advance understanding of plurality and tension with different research foci and levels of abstraction. Figure 1 provides a visual orientation that summarizes these various foci (plurality/tension) and abstractions (midrange theory/substantive theory) across these papers. By no means do we intend to be definitive about the positioning of the papers and acknowledge potential bias in the interpretation of the underlying papers. The position of specific papers is thus arguable and for illustrative purposes. Importantly, a dominant focus on plurality, for instance, does not mean that the paper in question is irrelevant for or unrelated to tensions, as these phenomena are rather entangled as we will outline hereafter. However, the visualization helps seeing both the spectrum of this special issue and can point to opportunities for future research when locating research ideas and overlaying these with extant literature. The visual also embodies the role of connecting research on, for, and through design, that the papers engage in various ways with, substantiating the role of concrete phenomena, related mechanisms, and theoretical explanations with interdisciplinary links.

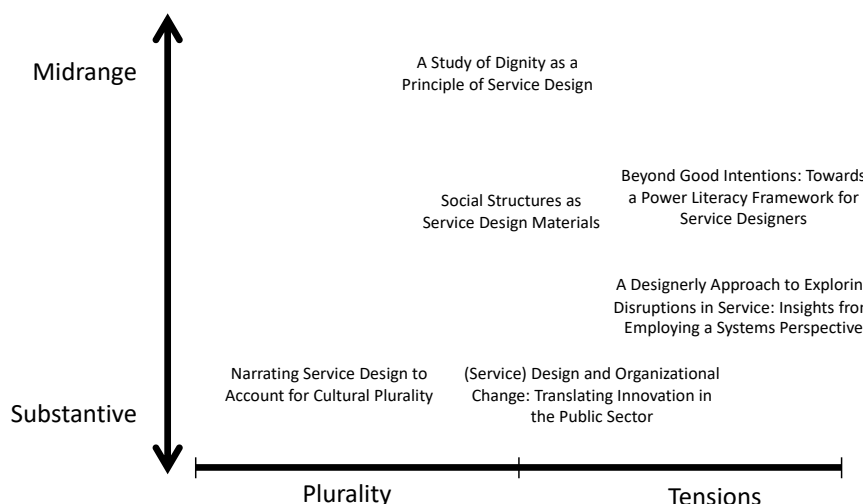


Figure 1. Contextualizing the papers in this special issue across foci, and levels of abstraction.

Entanglements of Plurality and Tension

In the general framing of plurality and tension, we were broadly opening up the two as concepts for research. We viewed plurality in relationship to the empirical context and its conditioning nature, considering coexisting differences and uniqueness of system elements as fundamental aspects. Tensions, on the other hand, we conceptualized in view of relations and systems where they occur, considering coexisting and incompatible viewpoints or interests whereby actors feel torn in different directions. We are not in a position to suggest the precedence of one over the other, nor is it our intention to define precise and exemptive models. In view of their potential interdependence, we will suggest entanglements between plurality and tension, beyond yet referencing to the individual papers in this issue. This will be done in the form of a set of short attempts (in French “un essai”) at articulating how tension and plurality may contribute to forming a research agenda.

On Tensions in Plurality

Pluralistic contexts can be particularly challenging for service designers when there are contradicting or contested demands among system members that may erode service design processes or outcomes. Drawing on various theoretical perspectives, such tensions can be seen as sensed pressures or strains on a focal system due to diverging or competing requests that are concurrent and interdependent, requiring substantive decisions by the service designer in moving forward. For example, organizational or systemic change through service design is likely to come with tensions that can manifest within and across the scope, endurance, and paradigmatic radicalness of transformation (e.g., Koskela-Huotari et al., 2021), based on the various preferences of actors and institutional arrangements they are embedded in. Seravalli and Witmer (2021) provide an account of such challenges that arise in relation to power dynamics in their focal context. Similarly, systemic disruptions can manifest in various tensions that are linked to diverging underlying priorities or mismatching expectations in a system of connected actors (Rodrigues et al., 2021). Service designers can hence be occupied with tension management (cf., Qiu & Chreim, 2021), including the need to build literacy around forms and dynamics of power (Goodwill et al., 2021; Seravalli & Witmer, 2021) and types of tensions (Rodrigues et al., 2021). Conventionally there seems to be a tendency to seek ways to avoid, suppress, or minimize such tensions for a smooth service design process. Yet, reality is often fraught with pervasive incoherence and disagreements (Farjoun & Fiss, 2021), with power structures and resulting struggles not entirely avoidable. Consider, for instance, the formal authority or informal influence of a single yet powerful actor during an organizational change project, who might together with their allies jeopardize or boost the ensuing organizational change project. Service designers might thus seek to reframe and steer conflict or contradictions along the lines of productive tension, so that important divergence or imbalance is recognized and ultimately positively leveraged as an opportunity (cf., Farjoun & Fiss, 2021).

The more complexity the framing of a service design context introduces, a viable assumption is that there is a greater risk that tensions will occur. In this sense, tensions can be seen as materializations or manifestations of plurality; the number of actors and relationships involved, the number and significance of issues involved, or the number and rigidity of institutional conditions to name a few, might act as locus of contention, turning local situations into potential pressure-cooker simulations. For example, Vink and Koskela-Huotari (2021) provide insights into institutional plurality in case of multiple coexisting institutional elements, which in turn can create complex environments for people to navigate subsequent expectations. Institutional elements in this sense can function as amplifiers for tension among system members and become important materials for design. In view of these contextual characteristics, service designers might encounter contradicting, imbalanced, misfitting, or simply competing perspectives held by individuals or collectives, with reference to specific ideas, norms, values, priorities, technologies, or practices, creating potential tensions experienced by individuals and/or among groups. Tensions can thus manifest across structural, behavioral, institutional, relational, emotional and other dimensions or levels (e.g., Smith & Lewis, 2011; Hahn et al., 2015; Löfstål & Jontoft, 2017). For this reason, a phenomenon such as dignity can become an important guiding principle in pluralistic service design contexts (Kim, 2021), whereby intentional design around dignity hopefully helps counteract relational or emotional tensions.

An assumption is often that tensions carry the risk of being dysfunctional. “A fundamental challenge for complex systems is that the very mechanisms—tensions, contradictions, imbalances—that render a system’s self-transformation and renewal possible, can also subject it to potential failure and collapse” (Fajoun & Fiss, 2021, p. 3). Evolutionary psychology offers insights into potentially underlying reasons for tensions that might bring systems to the brink of collapse, for example, ultimate motives of status, power, or affiliation desires (e.g., Buss, 2004).

Further, tensions can fall into different categories, such as relatively simple/complex or perceived reconcilability/irreconcilability. A pattern of tensions across categories can surface, for example, when service designers seek to address the needs of multiple actors simultaneously such as in an organizational change project (see e.g., Seravalli & Witmer, 2021). Some organizational members might see their role-related needs as more important than those of other organizational members/roles. Such circumstances and resulting priority tensions (see e.g., Rodrigues et al., 2021) might be promoted by rigid hierarchies where certain organizational members feel more entitled and empowered than others to openly push for their interests. Other aspects that occur are early opposition to trial new practices in situ, as the familiar ways of doing things rule day-to-day business and mental models, triggering tensed situations with collateral hesitation or resistance. The use of artificial concepts of certainty (e.g., trial boundaries, minimum outcome benefits), empowering stakeholders to feel more comfortable in service design processes, having a say or engaging them in empathic perspective taking, might facilitate or dilute tensed situations. Tactics service

designers may use to work with differences span from achieving compromise, fit, balance, safety, integration, or other ways to acknowledge differences at hand or beyond the specific situation.

Another pattern service designers can face is what we here consider rather complex and seemingly irreconcilable tensions. That is, tensions which may be described as paradoxical and rigid in nature, because they require the simultaneous pursuit of existentially opposing or mutually exclusive elements that have been well-established in context (cf. Smith & Lewis, 2011). Often these types of tensions persist over time (Lövtål & Jontoft, 2017) and carry the risk of mirroring (if salient) or even creating (if latent) fundamental rifts among service design stakeholders. For example, paradoxical tensions might emerge due to different logics with which organizational members operate. Bringing members of various teams together for co-design workshops might expose some deep-rooted and on face value irreconcilable differences. However, the fact that some of these stakeholder perspectives seem incompatible does not necessarily mean that these tensions should be avoided or suppressed.

In contrast, seemingly irreconcilable tensions can provide a fertile ground for breakthrough insights and ideas (Farjoun & Fiss, 2021). The conflicting positions might stimulate—if facilitated well—invaluable dialogue between different stakeholders, which service designers might seek to leverage in ensuing phases of the project. This comes back to a notion of productive tensions (e.g., Isaksen & Ekvall, 2010), whereby different actors are able to collaborate and compete for their interests simultaneously, while remaining sufficiently constructive such that the situational coalition does not break down. Productive tension around irreconcilable differences might lead to ‘both-and’ or ‘more-than’ rather than trade-off/either-or scenarios (Qiu & Chreim, 2021). For instance, service designers might seek to embrace and transcend opposing views by engaging in a political process of seeking collective benefits beyond immediate interests or reframing situations and combining perspectives. Hence, to understand the role of service design and service designers one may need to consider the different types of tensions and the potential role these tensions might be able to play, or the dynamics they might trigger in the contexts with which they engage.

Tensions create a dynamic system, and their presence can be seen as part of expansive learning (Engeström, 2000). This frames some of the earlier suggestions differently. With actors being potentially part of multiple activity systems, that together form a service system (Maffei & Sangiorgi 2006; Sangiorgi & Clark, 2004; Menichinelli, 2018), tensions can ensue across several aspects, or levels, of activity systems. For example, the objectives of activity systems may be in contradiction with each other, or there may be contradictions within activity systems (Foot, 2016; Engeström, 1987). Seen as tensions, such contradictions may also play out or have implications for the service design project, at a focal department, organization, or a network of actors. Some of these tensions can be chosen to be exposed in context, in a facilitated manner with specific methods. The rationale for doing so can range from making tensions accessible to their positive or disruptive impact potential. The ‘right tensions’, whether simple

or complex, can thus turn into generative opportunities for service transformation, setting free critical forces or energies needed for change and innovation. Tension management strategies develop in an interplay between simple and complex strategies through joint learning, depending on how resources can be made relevant and the effort required.

Tensions are also an integral part of speculative or critical design approaches and methods (Dunne & Raby, 2013), as well as being an important material manipulated by designing (Hansson et al., 2018). With the former the designer takes on an active role, highlighting and introducing tensions, to question what is taken for granted and open up spaces for development (see e.g., Wetter-Edman et al., 2018; Rodrigues, et al., 2021; Vink & Koskela-Huotari, 2021). In so doing, acting from what can almost be seen as an activist role, questions of power in design, representativity, and accountability arise (Pierri, 2018). Frögård (2021) shows how tension is an integral part of being responsible in designing, in the role of being and acting as designers, as well as in other relationships and processes. When viewed as a generative approach, the conception of design being adversarial (DiSalvo, 2015) latches onto socio-historical understandings of frictions, but also onto a more material understanding of frictions. As such tensions then can be viewed as a material manipulated by design, extending into the tangible through interventions (see e.g., Patelli & Vendrame, 2018), as well as through representations of tensions and their effects.

Finally, tensions can be understood as being part of an aesthetic in a service system, easily exemplified by experiential services, but should not be disregarded in any system. Tension is an integral part of our diachronic and bodily understanding of participating in service, building on embodiment (see e.g., Schiphorst, 2009) and soma-aesthetics (Höök, 2018). Tensions in this sense become part of making situations in a service system, for instance, palpable or in suspense.

On Plurality from Tensions

Plurality represents an important yet likely under-represented aspect of contemporary service design (Duan et al., 2021). Meanwhile, plurality can refer to different perspectives (including differing ontological assumptions) and can take on different forms or scope. For example, plurality can refer to a world that harbors many different worlds, cherishing the non-universal, non-reductionist, local or otherwise non-capitalist modernity (e.g., Escobar, 2011). This pluriversal perspective embraces the many facets and faces that constitute the whole of earth and its diverging strands of being, knowing, and living. On the other hand, plurality can manifest in more concrete and specific expressions of difference and uniqueness. Duan et al. (2021), for instance, establish concerning patterns in the service design discipline of not sufficiently recognizing plurality in culture, service design approaches and perspectives. On the other hand, Brès et al. (2018), distinguish, for example, three different types of pluralist elements in studying organizations (which we view more generally in terms of systems) that might also support service designers’ sensemaking: 1) multiplicity of powers (e.g., membership or authority complexity);

2) multiplicity of preferences (e.g., goal or interest complexity); and 3) multiplicity of logics (e.g., coordination and institutional complexity). Faced with various degrees and dimensions of plurality, seeking to leverage and/or integrate various actors and their perspectives across transformations towards a unifying service solution might not necessarily be the primary goal and may lead to setting tensions in play.

While tensions can be a result of plurality as described earlier, plurality can also be a result of tensions. For example, if multiple actors are competing for their preferences and their logics are incompatible yet valuable in their own right, service designers might recognize the need to ultimately serve these multiple actors simultaneously. Rather than prioritizing one over the other, service designers might indeed seek solutions that support various actors or perspectives concurrently (see e.g., Čaić et al, 2019). Service designers together with various actors might accordingly come to the conclusion that the coexistence or potential alternation of conflicting system conditions might be useful. The awareness that Duan et al. (2021) offer within the service design discipline in terms of a rather colonial diffusion or uniform approaches might stimulate productive tension among service design researchers and practitioners, which in turn hopefully contributes to a greater acknowledgement and appreciation of plurality within the very discipline. In so doing, service designers might create new or leverage existing plurality to be more integrative or inclusive in design. From Kim (2021) one may draw the observation that dignity in fact is pluralistic, and what are considered symbols or enactments of dignity by a focal actor may not be considered as such by another.

With the recognition of plurality as a condition of any system, and that plurality is promoted, the concept of agonistic struggle suggested by Mouffe (2000) can be applied. The success and healthiness of any system in light of this hinges on its plurality and its tensions, even at the stage of those becoming, or escalating into, controversies. This stands in contrast to assumptions that plurality carries a risk of increased number of frictions. In Rodrigues et al. (2021), there are indications of this, where plurality can be seen as a driver for developing strategies that precedes the occurrence of frictions while not necessarily avoiding disruptions. The interplay between plurality and disruptions develops the resilience of the service system in this case. In the light of agonistic struggle, frictions are not an effect of increased plurality, and frictions are not necessarily sought to be resolved. Focus may instead be on processes of acting for tension-full processes and situations that support the development of and an understanding of the necessity of plurality, for example through infrastructuring (Björgvinsson et al., 2012) and design ‘things’ (Binder et al., 2011).

From an actor perspective, plurality also taps into more general aspects of participation and exclusion. This spans a wide area, where plurality is taken for granted, but the possibility to achieve it requires different kinds of active struggle. From participation as democratization (Emilson et al., 2014), over a wide variety of aspects of inclusion (Costanza-Chock, 2018), and decolonization (Tlostanova, 2017), to rights and equality (Anderson, 1999).

Before going into the research agenda, we conclude that plurality and tension, as concepts in research, stand alongside each other. Any attempts to make connections will have to be based on assumptions that should be clarified. Moreover, some of those attempts are hypotheses in themselves, that can be the objective for specific studies.

Towards a Research Agenda

In the following section, we integrate insights from papers in this special issue, the entanglements, as well as material from a wider selection of literature on complexity, plurality, and tensions to propose a research agenda for service design. The different parts of the agenda are all open to a diversity of research approaches and methods, ranging from low to high engagement, from conceptual to practice driven, and from descriptive to generative (Redström, 2017). The agenda is also open to different kinds of knowledge claims, ranging from practice theoretical to midrange and meta theoretical. In so doing, we structure the research agenda across plurality and tension on one hand, and for each of these specifically focusing on 1) phenomena and mechanisms, 2) making phenomena and mechanisms available and acting generatively on and with them, 3) engagement in transformations, and 4) theoretical and ethical perspectives. These components are not exemptive, nor mutually exclusive. Each component is exemplified with a couple of potential research opportunities.

Plurality

Our perspective on plurality assumes that service systems in themselves are pluralistic in nature, celebrating differences and uniqueness, as are the contexts of any service system.

The **first** component of the research agenda focuses on the phenomena and the mechanisms. Consider, for example, the multiplicity of actors, relationships, institutional constellations, and institutional interpretations that often coexist in service systems. While individual needs, logics, practices, and interpersonal dynamics might differ across actors, for instance, so will the institutional frames and meanings that guide interactions. This opens up important research considerations to better understand plurality in context such as:

- What role does aesthetic knowledge play in pluralistic systems, for its participants, and its observers?
- What mechanisms are at play in transformations from one ‘plural system’ to another? How are the differences made meaningful?
- How do such mechanisms play out in perspectives using multiple hierarchical system frames, such as systems of systems, and what are the consequences on transfer, containment, and scaling of plurality between and across systems and system frames?
- What aspects of facilitation and organization in design practice are inhibitive or conducive to plurality?
- Which meta-theoretical perspectives are particularly conducive to inform midrange plurality concepts and empirical manifestations thereof?

- More generally, how can plurality be meaningfully systematized and structured for service design purposes?

The **second** component of the research agenda focuses on making phenomena and mechanisms available and acting generatively on and with them. Consider, for example, the use of design ethnography or personas, and other enactments in design practice. Making plurality visible may in some contexts be generative in itself, while in other contexts norm-creative work may be needed to make plurality part of generatively contributing to the service system. With this in mind, we offer the following future research considerations:

- What possibilities are there to make plurality, its structures and dynamics, across nested service systems available? How do those different possibilities allow for aspects of diversity across system levels to inform and challenge design processes and practices?
- How can enactments of plurality support designing? What theoretical foundations are needed to understand aspects of recombination in the context of trying alternative pluralistic constellations?
- What salient features of service design tools can contribute to attending to plurality in different practices of designing? And conversely, what salient features of plurality can be made manifest in the making of tools for different design practices?
- What variation in methodological approaches are needed to allow for rigorous development of methods and tools for designing that can be enacted with an advanced understanding of plurality?

The **third** component of the research agenda focuses on engaging in transformation. While certain elements of the service systems will have evolved and emerged, in the fashion of that specific system, service designers might seek to intentionally shape other elements of the system, offering important future research opportunities such as:

- What is the role of design in contributing to altering established and recent theories and frameworks of transformation, by taking pluralistic positions and perspectives and by promoting its own pluralistic potential?
- What is needed in design practice to adapt its transformation approaches to pluralistic influences, taking stock of emerging analytic frameworks?
- What aspects and mechanisms of plurality can be integrated to drive engagement in transformation?

The **fourth** component of the research agenda focuses on theory and ethics. Building on, at least, two research areas, with long traditions of integrating an array of theories from a wide selection of disciplines, there are multiple avenues for further research. For instance:

- What aspects of established and recent theories or frameworks of transformation and designing in transformation are challenged by pluralistic starting points? What is needed in design practice to adapt its transformation frameworks to pluralistic influences?

- What contemporary theories may be integrated or leveraged as enabling, or method theories (e.g., decolonial and feminist theories) to advance the current status quo of domain or substantive theories in service design?
- What enabling role might theories spanning from gestalt theory, paradox to embodiment, play, for example, and what are the limitations, to help inform pluralistic compositions and service design decision making?
- What limitations are brought by institutional theory, and what enabling role may it play, to help understand pluralistic contexts and potential implications?
- What ethical aspects follow from a pluralistic outset and process, with relevance for designing?

Tensions

Our perspective on tensions assumes that these feature in coexisting diverging forces which play out in relations within service systems, as in relations between service systems, and service systems and their contexts. While tensions are increasingly recognized in design contexts and practices, important questions emerge as to their understandings and dealings.

The **fifth** component of the research agenda focuses accordingly on the phenomena and the mechanisms.

- Where are the boundaries of and what are the success factors for different characterization of tensions, such as productive tension, agonistic struggle, and their associated dynamics? Are there other concepts or frameworks that help reframe or resystematize tensions and tension management for service design purposes?
- How are tensions managed, deliberately or not, in service systems, and who is managing them? What could be the designer's role in tension management?
- How do tensions evolve across layers of nested systems? And how can service designers best uncover and leverage the potentially dynamic nature of tensions? Which pitfalls might present themselves when dealing with tensions, particularly in complex service system settings?
- How are tensions being dealt with in a focal service system to date and what does that tell designers about possible or best ways to attend to tensions?

The **sixth** component of the research agenda focuses on making available and acting generatively.

- What characteristics of tensions lend themselves to being made available? What role do different ways of embodying and sensing tensions play? What role does aesthetic and spiritual knowledge play?
- What possibilities does service contexts present for designers to make tensions visible and facilitate their uncovering? What characteristics of different kinds of tensions are valuable and fruitful to design in service contexts?
- How can fundamental or long-term work of design (e.g. infrastructuring, translation) develop to support tensions in being generative in transformation processes?

- What is the role of enacting tensions as a design material? What methods and contexts are conducive to successfully designing tensions?

The **seventh** component of the research agenda focuses again on engaging in transformation, this time with a view on tensions. For instance:

- How can designers establish which tensions to potentially nourish versus which ones to potentially avoid, neglect or suppress?
- What types of and what characteristics of tensions can be used for transformative purposes? As transformations of service systems can be anchored across scope, endurance, and paradigmatic radicalness of change, how can designers navigate tensions emerging across these dimensions and resulting strategic choices?
- How can service designers meaningfully engage in institutional work (e.g., disrupting existing or introducing new rules, values, and norms) and deal with emerging tensions?

The **eighth** and final component of the research agenda focuses on theory and ethics to advance understanding of tensions. As mentioned above, there are multiple theoretical foundations that may be engaged and would enrich service design should they be employed in research.

- What understanding of tensions in design can, for example, contingency, paradox, and dialectic perspectives play?
- What added understanding of service systems and their tensions can, for instance, activity theory, soma-aesthetics, and agonistic perspectives bring?
- What ethical ramifications potentially ensue when manipulating tensions in a service system? For example, to what degree can or should designers put systems and their actors intentionally under stress to achieve productive tension, and what are potential boundaries and implications?

On a more general note, we would like to encourage researchers to take inspiration from a wide set of disciplines and subject areas in order to increase plurality in service design research. Plurality is, for example, an integrated part of music, through polyrhythm; of ability studies, through functional variation; of feminism, through norm-creativity; and of decolonial studies, through indigenous knowledge. Tensions, on the other hand, are also an integrated part of chemistry, with osmosis; of cellular biology, with toxins; of physics, through electromagnetism; of civil engineering, through systems of forces; of music, through chording and progressions; and of drama, through suspense.

While recent theoretical developments have increased the connection between service research and design research, design research builds on a long tradition of integrating multiple perspectives through advanced design research methods. We expect contemporary design research methodology to increase its influence on service design research.

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