

A DISCUSSION TO LEARN ABOUT SUSTAINABLE WELFARE SYSTEMS FUNCTIONING

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ABSTRACT

A typical approach when designing a system for social service functioning in the European and Norwegian contexts is to emphasize what does not function—i.e., one does not ask for reasons behind the existence of conforming or agreeable behavior; rather, it is divergent behavior that is studied. A consequence of such a perspective may produce research designs and develop projects seeking to understand and describe phenomena such as alienation, vulnerability, and feelings of malfunctioning. To elaborate, such studies aim to describe relations rather than differences; the latter can be understood as the former. However, difference, as per Niklas Luhmann's understanding, indicates how relational descriptions are always logical and causal and thus lack the descriptions of paradoxes that produce agreeable functioning. Design based on causality may lead to the implementation of specific plans, while design that builds on the understanding of societal functioning as something that can emerge out of what seems paradoxical may lead to the design of a direction for a system. In this article, we will discuss how design processes that seek to implement a plan may differ from the processes that aim to initiate a direction in the context of public services. We will describe these differences through existing descriptions and exemplify their differences in functioning through the notions of maintenance and the value of care. A sustainable welfare system has the following characteristics: 1. With one or more meaningful, moral, and satisfying goals, the system offers a sense of sufficiency. 2. Positive feedback loops are balanced by negative feedback loops at an appropriate scale. 3. The system possesses clean, clear, fast, and compelling information flows. We protect our resource base so that it is resilient and capable of self-organizing and evolving. These dimensions will be discussed further in relation to how the functioning they create influences democracy through the behavior they produce.

Keywords: Method development, systemic design, cybernetic, systems thinking, sustainable welfare system

1 PLAN, DIRECTION, AND DEMOCRATIC VALUES IN DESIGN

Design pedagogy in problem solving has roots in rational and causal thinking. This thinking is widely used in service design. In this paper, we discuss how alternative approaches may foster holistic and therefore robust design solutions but with less certainty.

Niklas Luhmann et. al. emphasizes, in the book *Sociological Theory* [2], the usefulness of moving from *rationality enlightenment to complexity clarification* to understand societies. This involves recognizing social systems as complex. With such recognition, a rational way of thinking to understand societal functioning will be less logical and applicable. According to Luhmann et. al. , "systems lack reason" [2]. By this, he means to urge us to accept the uncertainty of society—i.e., its contingent character [2]. The main problem with reason, according to Luhmann, is that "rationality can only be one rationality" [2]. This means that in exceedingly complex systems, rationality is a tool that is insufficient, since logic only refers to singular situations. Therefore, one must work with methods that handle complexity.

How can one understand rational ways of thinking while designing for societal functioning? The single orientation of rationality typically leads to a plan, and such a rationally justified plan can be exemplified by trying to tackle what are considered problematic behaviours or experiences. They are often described as pain points in a service design process and are identified through blueprints [4] that result in change proposals through service journey descriptions. The problem with such a focus is as follows: First, in complex contexts, paradoxes often emerge—meaning that a service can work despite stimulating

unwanted behavior [2]. This means that a change in a system may create more problems than the removed problem. Second, a blueprint is a current description consisting of empirical data without abstractions [5], which does not take into account the functioning of systems in the face of change. Third, service journey descriptions relate to the present picture and not to complex dynamics that can describe influences independent of time, defining future service design and thus functioning.

One of Luhmann's points here is that there is as much to learn by studying functioning as there is by examining dysfunction. Luhmann suggests that one can replace rationality with observation of the complexity of social systems and observation of the observation [2]. By such observation, one can describe systems functioning (such as a public welfare system), the environment, and the relation between the two; this relation is what Luhmann calls difference.

1.1 Mead on plan versus direction and values

Rational thinking as a basis for design then leads to focusing on problems and planning. Margaret Mead [4] states in her article "The comparative study of culture and the purposive cultivation of democratic values" (1942) how "blueprints" and planning for defined ends lead to the manipulation of individuals, which in turn leads to undemocratic system functioning [4]. She further highlights that by working in terms of values that are limited to defining a direction, it is possible for us to use scientific methods to control the process without the negation of the moral autonomy of the human spirit [4]. When leading in a value-based direction, treating people in the system as things can be avoided—e.g., in a linear paradigm, such as in the instrumentality of hard science, and when building a ship, the process has an end result namely a ship and the process involves handling tools and other objects. In the social sciences, the tools are people, and people learn [4], in contrast to things that can be handled and controlled.

In other words, you can ask where the plan comes from. Often, the plan emerges from causal thinking through diagnosing the social system with unwanted symptoms. The typical descriptions of such symptoms are school refusal, school dropouts, feelings of alienation, drug addiction, and so on. Moreover, focusing on problems thus represents plan-based thinking and not directional thinking. Planning is useful when dealing with static systems that can be understood as linear, not when working with complex, living systems dealing with wicked problems "with no definitive problem formulation and no 'stopping rule.'" In other words, these problems lack an inherent logic that signals when they are solved. Their solutions are not true or false—only good or bad. There is no way to test the solution to a wicked problem" [6].

Mead describes the state of mind created by shifting toward the habit of "learning to learn," as seen among the Balinese: "The treatment of children is such that they learn not to see life as composed of conative sequences ending in satisfaction, but rather to see it as composed of rote sequences inherently satisfying in themselves" [4]. She recommends looking for value in the act itself rather than regarding the act as a means to an end [4]. Donella Meadows states that "mindsets" (leverage point 2) [8] are above the function or purpose of a system because they inform the functions and goals created by the people in a system. Value-based leverage (leverage points 1–3) as well as human-related leverage (leverage points 1–6) are formulated by Meadows as places with the highest capability to influence change in dynamic, complex systems, or living systems [8].

An interesting differentiation is that a direction involves an inherent value in the act itself [4], which can be seen as an essential part of the maintenance process of caring for a living system designed based on values, rather than as a means to an end [4].

2 CAUSAL THINKING

When recognizing the phenomenon of causal thinking, one will follow a temporary development that conveys the persuasive argument that consequences would not have happened if the cause had not existed [2]. This thinking often leads to a design that contains a plan, as described by Mead [4], with a one-way progression from a point of departure, defined as unwanted behavior to a favoured situation. Thus, by recognizing a cause as a basis for understanding a context, and changing by design, one neglects seeing systems with information about a wide range of dynamics, possibly defined by delays, reinforcing, and balancing loops, among others, and by the creation of multiple other subsystems, all of which may react when intervened. Removing a problem, according to Luhmann et. al. may then lead to the unintended emergence of what Forrester called counter-intuitive systems and a general lack of understanding of the context studied [7]. Moreover, designing based on not having defined ends but intended functioning may be understood as direction thinking. Due to the widened scope of time and

functioning, such an approach will produce a continuously fluctuating dynamic image, defined by various feedback loops between units, delays, possible buffers, communication flows, and coding, among others [1], which is more complex. The uncertainty that such an understanding creates the complex image it communicates may be why people choose to utilize causal thinking that is easy to understand. However, understanding data in a broader context and at different levels of abstraction can help designers make more informed decisions.

3 SYSTEMS CODING

Social systems are exceedingly complex and self-productive; however, they are less complex than the environment outside the system [1]. Such systems can be analysed by describing the levels of operations and analysing input–output, feedback loops, and relations, among others. An additional way of understanding social systems functioning is to describe the language or coding that the system uses to operate. Such coding can be understood as information that leads to binary switching. For example, in finance, the coding can be understood as payment–not payment; in science, true–not true; in law, legal–not legal; and so on [1]. In fact, such codes are described by Luhmann as universal and general [1] in a way that everything that is within the domain of relevance for the system belongs to one or the other value: "The more complex the coding is, the richer is the variety of (internal) processes that the system can operate" [1]. This can be understood as the capacity to communicate with the environment (outside of the system).

4 SOCIAL SUSTAINABILITY WITH REFERENCE TO PLAN AND DIRECTION

Meadows posits that "to be socially sustainable, capital stocks and resource flows must be equitably distributed and sufficient to provide a good life for everyone. If we wish to create a sustainable world, we must take into consideration and fulfil these biophysical necessities of sustainability" [8]. She built on the three biophysical necessities of sustainability, as coined by Herman Daly, stating that when using common resources and releasing pollution, balanced use and release are necessary [10]. Every renewable resource must be used at or below the rate at which it can be regenerated or regenerate itself, whereas every non-renewable resource, such as our fossil fuels, fossil waters, and minerals, must be used at or below the rate at which a renewable substitute can be developed. Furthermore, every pollution stream must be emitted at or below the rate at which it can be absorbed or made harmless by the natural systems of the world [10]. The tragedy of the commons, according to Garrett Hardin, is defined by an unsustainable system function where the mentioned needs related to the sustainable use of shared common resources in society are not met [9]. On the contrary, the tragedy of the commons can be described as a reinforcing feedback loop where exploitation is the driving system behavior that will lead to eradicating the resource.

As described in systems theory, Meadows' systems (for example) may be understood as having a goal or direction—i.e., one cannot foresee a system's exact functions or specifically say what a system seeks to reach. In any system, new behaviours and functions emerge because of other functioning's. Such subsystems may function in line with the intention of the main system that has created them; however, they may work counter to the intention of the initial system [7]. Further, growth as a goal involves asking for unsustainability on a finite planet [8], while goals must be related to real human fulfilment, not just acquiring more. A sustainable system can be socially equitable and culturally committed to our common resource base, as it is our life-support system [8].

Therefore, how does a sustainable system look? It has the following characteristics:

1. With one or more meaningful, moral, and satisfying goals, the system offers a sense of sufficiency.
2. Positive feedback loops are balanced by negative feedback loops at an appropriate scale.
3. The system possesses clean, clear, fast, and compelling information flows.
4. We protect our resource base so that it is resilient and capable of self-organizing and evolving [8].

An interesting differentiation when describing a direction is that it is a value-based vision of a different system state. In addition, a plan contains concrete actions intended to achieve a goal. It can be considered short-term in contrast to visions, which can last centuries. Envisioning a sustainable future, the theoretical discussion in this paper suggests describing a direction, not a plan.

5 WELFARE SYSTEMS AS DESIGN CONTEXTS

In this paper, we discuss welfare system functions based on our ontological experience with the Norwegian Labour and Welfare Administration (NAV) on two levels: level 1 is the communication system existing between the users and NAV, while level 2 is the overall service development necessary for the system to function. At level 1, NAV does not have an overview over all communications with its users in the different public channels offered by NAV. The communication is typically initiated out of new needs that emerge among users due to the occurrence of events in their daily lives or to limitations in the communication systems that are not met by the current system. Such events may include new rules or regulations, new practices, infrastructure failures, and so on that cause users to contact NAV. Further, the emergent need creates new subsystems. For example, new businesses emerge providing services guiding users in how to reach NAV, lawyers offering their services to act on user's behalf in communication with NAV, external emergent websites, Facebook profiles and so on creating businesses on the basis that NAV services are difficult to understand and that it is difficult to get in contact with NAV.

To understand the communication systems at NAV, it may be helpful to describe systems functioning through communication, apart from describing how to produce information with individuals benefiting from the welfare system. In general, one could say that the design section of NAV strives to create a communication system designed to meet the needs of users and is easily accessible. Further, it ought to be reliable and consistent and provide clear and concise information. It is essential also to be responsive and able to adapt to changing needs and circumstances, prioritize user privacy and security, and secure stable communication to create a trustworthy relationship between NAV and its users. Typically, the coding of individual user communication is based on; *support–no support, payment–no payment, and correct documentation– incorrect documentation*, among others.

In addition, the second level of overall service development involves processes of continuous improvement to both the digital services and follow-up services delivered from local, physical offices, where users can meet with their supervisors. This level involves understanding the context of welfare systems functioning in relation to all actors in the public and private sectors under government instructions. The service thus relies on understanding different codes, as described by Luhmann et. al. [1], as instructions from the government come from the finance department with *payment–no payment* coding and the judicial department with *legal–not legal* coding.

This coding or language can be identified as or is in alignment with the direction of a system. For a welfare system, a direction may be based on values such as *individual autonomy, care, democracy, sustainability, empowerment, and emergence flexibility*, while the other end of these functions may be based on, *manipulation, neglect, totalitarianism, unendurable control, a static state/ rigidity*, and other similar aspects.

6 DESIGNING SOCIAL SUSTAINABILITY

As Meadows emphasizes, social sustainability involves the fair distribution of care, democratic governing, and fair treatment when care is needed. The question, then, is how to design for a fair distribution of care and democratic governing? Due to the complexity of the societal circumstances in which designers seek handle through design interventions, we find that the combination of the theory introduced in this article produces an interesting starting point for thinking and learning about sustainable welfare systems functioning.

6.1 Understanding the design of sustainable welfare systems in relation to the presented theory

On the one hand the synthesis of the theories by Mead and Luhmann et. al. may lead to the understanding that rational thinking is related to causal thinking and that causal thinking is related to the development of plans, not directions. In many ways, a plan can be easily created without looking into any system dynamics, potential, or other types of functioning; yet it can seem strategic because it is concrete. A plan can thus be presented without information about how it will influence the system in which it is meant to function. Causal thinking, as the origin of a plan for a design process, can then be understood as linear, and one is locked in the process of continuously having to solve the next step or situation considered problematic based solely on information produced in the context of what the design and plan produce.

6.2 Designing a direction

A direction needs to be understood as an ongoing process and must therefore contain information about how it or any suggested intervention within a direction influences society or a system. We can investigate the suggestion by Mead [4] to design for a direction and not a plan and try to understand how this can be completed through the theory presented in this article. First, in the initial phases of the design process, one can try to neglect the concept of causal thinking and instead seek to describe the dynamics of a system by observation and the observation of observation to be able to visualize the complexity, functioning, and further, meaning of the system, which may help to set a direction for the system and design intervention. By orienting the design work in such a way, one would have to leave the persuasive argument of knowing what will happen through the design intervention and rather describe how the design is able to resist and adapt to the changing environments to which it will be exposed. Of course, one would need to abandon the traditional design philosophy that promises certainty based on cause-and-effect rationality.

To elaborate, when considering a direction, it is not the direction itself that is of importance for analysis but what it produces. Contrary to a plan that highlights a final result within a certain period, a direction offers an objective as functioning regardless of change, such as the distribution of care, democratic governance, and fair treatment. The mindful act of maintaining systems functions follows such a direction in the present rather than in the future. Descriptions of direction benefit or demand the mapping out the complexity in which the system is to function. With such an analysis and the resulting descriptions of complexity and manifold feedback loops, the line of the system with a direction may be more adaptable and may support the intended direction, even though it is disturbed by the outside environment.

According to Mead [4], plan thinking leads to manipulative and discriminatory processes and is undemocratic. The NAV system itself creates problems due to the laws that must be enforced or administered through its processes, turning functioning people into labelled, classified individuals. There is a circularity in the system where the plan creates what it is supposed to prevent. For NAV to work in a different direction, a different type of order should be initiated with noise and disruption to the system.

6.3 Understanding the direction for design in light of coding

The concept of systems coding or a binary language may contribute to an understanding or a way of approaching design for sustainable welfare systems. Designing for a direction in a welfare system without understanding systems coding may lead to designs that the entities (people) or the communication system itself cannot operate or understand. For example, one cannot introduce the concept of system direction to a social system that only understands plans. This is because plans involve cause-and-effect thinking and thus the design of ends, and when there is no plan or end presented, there is no possible logic to which to respond. To be able to communicate with the social system thus, one needs to know the coding that can be subsequently compared to other types of coding that use additional qualities as system outputs. If a social system is concerned with cause and effect, or the problem–problem solved type of thinking, the presentation of the quality equal distribution of care does not fit the logic. Accordingly, it is not the disliking of the thinking that makes the social system avoid such an idea; rather, it is the system's ability to use the information. However, presenting the understanding of pain points detected in a blueprint description, in fact, comes from a cause-and-effect type of thinking and may lead to the awareness of the existence of alternative codes.

6.4 Adopting Social sustainability and design in social welfare systems and mindful observations

According to Mead and Meadows, understanding the act of maintenance itself is valuable, and the power of mindsets can inspire direction. Discovering specific descriptions of values in the act of taking care of a living system, such as a welfare system, is a way of understanding how to start working with a direction and not a plan. It contains a shift in the mindset to being in the moment, mindfully observing and taking care of the welfare system's vital functioning, such as communication, instead of working toward a goal in the future. Therefore, how may a systems perspective provide new insights for students and practitioners working with exceedingly complex situations and developing ways of co-habiting spaces and sharing resources with each other?—regardless of whether it involves other cultures, other species, or the diverse eco-systems that support us? A functioning system may be facing intervention at a

systemic level—e.g., changes in the structure of the design itself through UX solutions and the application of metaphors or intuitive design elements that do not touch into or change the system's functioning. Finally, a system may be seen as something that will continue anyway; maybe one should alter the perspective of what change can be made within a system to create an inclusive, fair, and pluralistic future.

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