A shift of perspective in design inquiries: from individual boundaries to common needs

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Abstract
This paper extends design and systems literature by evaluating issues in methodology and practice that maintain learning on an individual context and doesn’t allow an improvement of the whole system.

The problem that has initiated this research is that it seems difficult for those engaged in a design process to reflect upon their own point of view in relation to other participants’ perspectives to identify the whole situation’s meaning.

The idea of this research is to critically examine, from a practical design perspective, the framework of Critical-Systems-Heuristics (CSH) W. Ulrich, by taking previous critiques carried out and practical aspects derived from a case study under consideration.

The purpose of this study is to identify issues of the current CSH-framework and to propose practical aspects to improve the same for civil engagement.

In order to fulfill this purpose, strengths and weaknesses of the current framework have been evaluated in terms of what is currently possible through the framework and what are the consequences of that for practical engagement.

This research identifies the need of methodological tools for designers that allow and support them to overcome individual boundaries in order to be able to engage into common needs of a system holistic.

Keywords
Critical-Systems-Heuristics; Ulrich; rational; empirical; normative

When inquiring into a design situation, designers see a situation from each of their personal point of views. The designer’s subjective perspective allows focusing on a certain need and discover certain related problem aspects within the design situation. But can designers be sure that the need they see is that what people need in their situation? How do designers get to know other points of views during the inquiry? What are the possibilities of each of the designers to convey their point of view and understand other points of views within a design-team? With design-team I mean collaboration between people with different backgrounds and affiliations in practice and research. So, do system design methodologies create opportunities to discover unknown needs and problem aspects during an inquiry between different kinds of stakeholders and worldviews? The problem that has initiated this research is that it seems difficult for those engaged in a design process to reflect upon their own point of view in relation to other participants’ perspectives to identify the whole situation’s meaning.

A challenge within this endeavor is to identify what the participants’ ideas applied to particular contexts mean, what their interest is and to identify new aspects within the holistic situation that are reasons for the problem aspects in particular contexts. The aim
of this paper is to provide practical tools that enable a reflective and critical practice for inquiries into complex situations.

The framework of Critical-Systems-Heuristics, (CSH) by W. Ulrich (1983) offers to support a critical reflective practice between various stakeholders when evaluating complex situations. Though, there seem to be several aspects that need to be changed in order to make the model practically applicable for design inquiries. The idea is to critically examine the CSH-framework from a design perspective to identify strengths and weaknesses of the current framework. The purpose of this study is to identify issues of the current CSH-framework and to propose practical aspects to improve the same for civil engagement. The overarching goal is to propose a new agenda that states a shift of current critical systems thinking and practice to enable interaction between various sources with different approaches and their proposals how to improve a situation in everyday work practices.

This paper is structured in the following way. First, the current CSH-framework is presented from a design perspective with a focus on methodology and practice. Second, an overview about other critiques carried out by previous research is provided. Furthermore practical aspects derived from a case study are presented. To fulfill this purpose of this study, strengths and weaknesses of the current framework have been evaluated under practical matters in terms of what is currently possible through the framework and what are the consequences of that for practical engagement. This has been set into relation to other critiques and the practical aspects identified in the case study. I then propose a new agenda to make a shift of perspective in design inquiries explicit. Finally I conclude about the findings of this research and propose questions to look into.

**CSH framework**

CSH, critical systems heuristics had been established in order to make systems thinking practically applicable. W. Ulrich followed with this enterprise the footsteps of C.W. Churchman to provide a framework for reflective practice based on practical philosophy and systems thinking. The framework of CSH is meant to educate professionals and citizens in problem solving for planning situations to acquire a critical competence that is not depending on theoretical knowledge as a basis for cogent critical argumentation. Practical reason had been, according to Ulrich, a fundamentally missing factor of the systems approach and his main argument to develop the framework of CSH. The originator of CSH builds on Kant (1788) that practical reason must be founded in a critically reflected, normative interest, where criticism has a practical role that determines norms, the way we should think and act. To be critical is then to become self-reflective about prior judgments that are influencing current ones. Interest within a normative context, related to by Ulrich, is where reason becomes practical, the cause is determining the will and by that action. A practical reason to use the system is not presupposed within the idea, as we cannot know the whole system.

Systems thinking is, according to P. Checkland (1997) “a set of elements joined together that make a complex whole, the whole is seen as having properties, which make more than the sum of the parts.”

Ulrich’s methodological goal of CSH with the *boundary critique* (2000) was to achieve awareness of professionals involved in planning situations about the consequences of their claims on affected citizens that are not involved into the planning process. Therefore, Ulrich (2000, 2012) wanted to involve affected citizens into this process to increase their critical competence in order to challenge rational claims of the decision-makers.

The primarily concern of Ulrich was to provide critical heuristic support with the framework of CSH, which is presented in the next chapter.
CSH methodology and practice

Ulrich’s idea with the methodology of boundary critique was to make the selectivity of individual evaluations through boundary judgments transparent, and to provide a systematic way in handling different assumptions regarding problematic situations. A report with a theoretical content of professional findings about a problematic situation provides the basis for an evaluation in a critical reflective debate among professionals and citizens. When inquiring into a design situation, value assumptions play a key role in contextual selectivity as they shape the perception of a situation. Therefore was Ulrich’s intention with the method of boundary judgments to support the discovery and evaluation of relevant problem aspects, assumptions and questions in a report about a problematic situation. Problem aspects are selected proposals, claims or suggestions in a report regarding various stakeholders. Ulrich’s attempt with CSH practice was to provide the basis for problem solving of complex situations by making the meaningfulness and justifiability of a claim transparent. Ulrich relates to the systemic concept of improvement, that is to make the underlying principle, which is presupposed in the design transparent, ‘the measure of performance’. Proposals for improvement are depending on prior judgments about a relevant ‘whole’ system. Improvement occurs only in respect to the entire relevant system.

Boundary judgments are to surface underlying value assumptions to practical judgments of claims in reports that are observations of fact and judgments of value, Ulrich (2000) see fig.1. Empirical and normative evaluations of problem aspects that count as relevant by the participants of the planning group, determine the meaning of the selected assumption in the ‘real world’. What a problem aspect means, what concerns and consequences are taken into consideration, defines the context referred to with the evaluation, the part of the ‘real world’ that is important.

The context referred to, by a person of a planning group determines the boundaries of the reference system that is in everyday language a relevant context. The context intuitively referred to defines the context to which a proposal relates and to which it is valid. The ‘individual’ meaning and validity of a selected problem aspect determines by that the boundaries of the existing system. The empirical selectivity creates the basis to propose ideas of how a situation ought to be that is according to Ulrich the normative selectivity in the ‘real world’ for different stakeholders.

Figure 1: The ‘eternal triangle’ of boundary judgments
(Source: Ulrich 2000, p.252)

Ulrich’s aim was therefore with the methodology of boundary critique to clarify different concerns regarding various stakeholders among the participants of a planning group, when evaluating problem situations. This is done in practice with the help of 12 boundary categories Ulrich (2000), see fig. 2 that represent sources of the system, related to those, 12 boundary questions Ulrich (1987), see fig. 3 are meant to understand the basis for action of each of the stakeholders and to assign boundary judgments for critical reflection.
Findings and proposals evaluated can be recorded systematically to each category, in a table of content for boundary critique, the classification of 12 categories consist of a division in an 'is' and 'ought' mode.

Figure 2: Table of boundary categories (Source: Ulrich, W. 1983, p.258;)

Figure 3: Checklist of boundary questions (Source: Ulrich, W. 1987, p.279f)
Practice of boundary critique is then in a critical reflective debate to examining the difference between what the boundaries of the existing system are and what they ought to be. Boundary critique is done, by changing perspective between facts and values that are evaluated conditions on basis of a report and what the participants think that ideally ought to be involved in a proposal regarding each category. The difference examined is to make the difference explicit that a proposal would make in practice in order to identify the beneficial and affected of the systems design’s implications.

In CSH a critical reflective debate starts with a professional of a planning-group proposing his boundary judgment of a proposal, identified in a report, to the planning group. The validity of a particular evaluation, boundary judgment, is furthermore examined between different concerns of professionals and citizens involved in a planning-group through an argumentative process. The legitimacy of a particular claim, made with an ‘individual’ evaluation, is constituted by the planning-group under consideration of the consequences for other citizens affected by the implication. The argumentative process about various possible implications of the systems design takes place in a systemic triangulation through the ‘eternal triangle’. This is done by taking one corner under consideration of the others in their interrelation into consideration, and vice versa. This process can be actively reconsidered according to CSH by extending the boundaries of the reference system by assuming new facts that get involved. When reconsidering the boundaries, the triangulated discussion aims to take consequences of their ideas on other people into consideration.

**CSH practical example and summary**

Ulrich gives the following example to make the practical implication of the methodology tangible. The case is given in ecosystem management to improve land use in an underprivileged region. The plan is to change agricultural practices by introducing new crops. The changes planned might bring some advantages for some while it imposes disadvantages for others. People whose concerns are not addressed properly might want to challenge the plan by pointing its normative selectivity out. Instead of arguing against the plan like knowing better, they voice their concern by raising consequences that the practical implication of the plan from their point of view would have for a specific group. The inquirers concerns are regarding means and skills that the affected people do not have.

Ulrich’s aim was to provide an approach that informs for creating the basis for rational discussion under everyday conditions. However, there is the need seen by Ulrich himself as well as other several systems thinkers and practitioners to develop the CSH-framework further. Critiques of CSH carried out by previous research will be presented next.

**Critiques of CSH**

Still, Ulrich’s CSH framework provides the only systems methodology to support critical reflection on boundary judgments, though several problematic aspects of the framework have been lifted earlier.

Jackson (1985c) raised his critique on Ulrich’s framework in three main points.

  Firstly, the scope of what Ulrich’s framework is able to address as it is neglecting instrumental reason. Instrumental reason has an important role in the dependency of rational social action on what is possible to do by efficient choice of means.

  Secondly, the applicability of Ulrich’s CSH in terms of the possibility to critique and reflect upon material conditions that give raise to ideas that built a social system design and lead to the domination of certain ideas.

  Thirdly, the depth of Ulrich’s framework to tackle structural aspects and development of social system means in terms of the possibility to provide examination and explanation of the nature of the material conditions.
Ulrich’s framework becomes subject of a more detailed critique a decade later, as part of a discussion around the development of knowledge-constitutive-interest theory (KCI). Habermas (1972). Midgley (1996) reviews and critiques three commitments of CSH, methodological pluralism, emancipation and critical awareness in ‘what is this thing called CST’ with the attempt to clarify CSH’s role in Critical-Systems-Thinking (CST). He challenges by this the main interest categories postulated by KCI. Midgley’s critique regards the role of critical awareness to challenge current approaches of methodological pluralism. He reviews and critiques first Flood and Jackson, (1991a) approach, to then draw on earlier approaches of Churchman (1968a, b, 1971, 1979) and Ulrich (1983). According to Midgley critical awareness is necessary to ‘liberate knowledge’ by alternative views of the situation and to choose between them in practice, which is not translated into methodology. Midgley critiques that CSH is not sufficient to enact critical awareness because it does not provide a method for critiquing other methodologies in an application for non-coercive situations.

Coercive situations become one of the issues between Jackson´s and Ulrich´s exchange of viewpoints in 2003 about a relevant use of CSH. There are different definitions of coercive situations among the authors, which also draw different consequences from that. Midgley (1996) reviews Flood´s and Jackson´s proposition to use different methodological approaches related to different interests through a complementary fashion in practice, because different assumptions are made through different methodologies. Their meta-methodology has KCI’s notion that work and interaction are fundamental to the human condition that gives rise to our interests. Methodological pluralism, complementarism, becomes the main issue in Jackson’s and Ulrich’s (2003a), (2003b), (2003c) discussion. Ulrich emphasizes CSH’s adoption of Kantian deep complementarism in terms of it’s critical relevance for critical inquiry and practice. Ulrich’s perspective is that conceptions of complementarism rely on a positivistic concept of methodological choice, which subordinates reflective practice to the choice of the intervention purpose.

Midgley (1996) constitutes that the principle of boundary critique is possible to translate into methodology for a whole systems inquiry by applying the 12 boundary questions as an integral part of the whole systems inquiry. That is according to him to operationalize critical awareness by methodologically identifying what effects are referred to with boundary judgments.

In another exchange of viewpoints between Midgley and Reynolds (2002a), (2002b), (2002c), (2002d), points Reynolds good argumentation skills as a form of best practice out. Reynolds demands to unveil incidences of coercion and better means to redress affected by forces of coercion in order to enable a methodological pluralism for a total systems intervention. Other critiques of CSH have been raised by Romm,(1995a) and Ivanov, (1991) and lately Strijbos, (2010).

To summarize, the debate around CSH did not lead to identify sources of problems and to provide practical tools for total systems intervention. The main issue seems to provide a methodology as point of departure that enables understanding between various stakeholders and their ideas for improvement in a comprehensive situation. A crucial point is to identify sources of interests that rule relationships between humans and technology that get embedded in object-properties planned. Therefore, I want to present in the next chapter practical aspects that derived from a case study.

Practical aspects of design inquiry

A multidisciplinary workshop between Design, Natural-Science and Industry, as part of a wider development project, has been studied in action and evaluated within our Phd-project, Rothkegel D. (in review). The study evaluated the structuring of a design-situation with 20 design-students involved in a mapping for improving traffic safety, set up in 13 categories. The problem that initiated this research was that solutions often do not solve
problems. The aim of the study was to identify factors that influence the exploration and evaluation of a design-situation in conceiving a solution. The purpose of the author’s inquiry was to identify to what kinds of problems design-students relate to while inquiring. In order to fulfill this purpose, information proposed on intermediary objects by the participants has been synthesized and analyzed by the author in several steps. The case showed that the perspective taken by the participants determined unintentionally conditions for each of them through their proposed relationship of humans and technology. The objective undertaken by the design-students was to control their context for having the value of power over a situation. Each of their evaluations was driven through the belief in technical systems by a mechanistic functionalistic approach. The study identified intertwined norms that made the two-step reflective process Schöns (1987) ineffective and led to choose similar means. The difficulty was for each of the participants to get out of their own context and to create through their performance the basis to perceive other than own needs in the situation explored and evaluated. The participants´ practice did not allow conveying their proposal`s meaning coherently among them in a comprehensive situation during the inquiry. The function of the proposed for humans was not possible to test in it’s practical implication, the purpose of the proposed remained unclear. The participants could therefore not understand each of their needs seen in the situation to formulate and evaluate related problems at the same time. The practice did not give a reason to interact between various stakeholders to clarify issues that caused different interests and conditioned the holistic situation. Instead the participants referred with the same approach to prior judgments without questioning their meaning relating to available information accordingly to their beliefs. The main issue was that the conditions for the participants decision-making where not made transparent for evaluation among them - that was their reasoning to make claims, to create the basis for common understanding about the idea of the theme. Issues within the proposed relationship between humans and technology where not tangible to emancipate from the current governance conditions. It was therefore not possible for the participants to get to know new facts that would have involved learning related to a different kind of knowledge than already related. The practical implications of the claims made were shown to affect each of the designer’s own conditions with an effect on a systems level. The source of the problem remained undiscovered that was the participants´ own perspective, which put each of them into the role of an object ruled by technology. Next I would like to highlight issues I identified within the current CSH-framework under consideration of other critiques carried out and the practical aspects derived from the case study presented. I also want to propose practical aspects to improve the current CSH-framework.

Current CSH issues & proposals for improvement

Ulrich`s CSH is a framework for inquiring into design situations where there is consensus about what the problematic situation is. But it is not sufficient enough to take new perspectives about a problem into consideration and to identify other problems than already known when inquiring into a situation. New perspectives are alternative ways of approaching different kinds of needs.

I have been structuring this section in the following manner. I will first summarize strength and weakness of the current framework. Then I will discuss 3 important aspects that are:

• A comprehensive situation
• Redefining the purpose of the systems design
• Justify practice

To each of those aspects I will present what is possible to do with the current CSH-framework then issues and consequences deriving from that are presented. Furthermore I will propose practical aspects that should enable to do what is not possible to do with the current framework.

The strength of Ulrich’s framework is the methodology to frame the context of problem aspects within the theoretical content of reported complex situations and to evaluate that content regarding various stakeholders between an empirical and normative mode systematically.

The weakness of Ulrich’s CSH-methodology is that it is not possible to overcome individual boundaries, a coercive situation, and relate to other contexts to refer to knowledge that has not been available, in order to do what is currently not possible to do.

**A comprehensive situation**

Possible with current CSH:

• To frame a context through problem aspects, which are effects of a systems design, with the interest in practical judgments of proposals in a report. Theoretical facts and existing values are the basis to make suggestions of how to solve the situation for others by referring to a context in the ‘real world’.

**Issue in current CSH:**

• The practice does not create a comprehensive picture of a situation from different perspectives to understand why people are relating to different kinds of problems and what has caused their behavior.

• The methodology does therefore not enable to understand the purpose of actual practice that is the practical reason why someone is doing what he is doing within the whole situation.

Practical aspects I propose:

• **Heuristics:** is first to inform about an ‘individual’ perspective of a situation for creating a comprehensive situation between different perspectives of various stakeholders. This is done, by visualizing ‘individual’ perspectives in relation to the need seen related to a category in order to identify what proposals mean regarding the interest. Heuristics is then to be able to get aware of different interests at the same time and to discover issues that caused human-machine relations within the same category and between them.

• **Reflective:** is to reflect upon the own reasoning regarding various sources in relation to other interests within a comprehensive situation, that is the belief of how to solve a situation. This is to identify the purpose of the interest related to through the ‘individual’ methodology applied in order to identify the source of the problem aspects referred to. The reflective-practice is to change perspective from the need seen through an ‘individual’ perspective to what is needed within the comprehensive situation created.

• **Critical:** is to propose alternative ideas to the existing idea of a theme through identifying and evaluating roles and rules created by the methodology applied. This is to redefine the purpose of actual practice and by that to redefine future agent–client relations.

**Redefining the purpose of the systems design**

Possible with current CSH:

• A critical evaluation is done, by changing perspective between theoretical facts together with current value-propositions and normative constitutions, regarding
different stakeholders through debate; this is to identify the difference a proposal would make for each of the stakeholders in practice.

- The debate conducted among the participants regards concerns about the consequences of the systems design on affected citizens. Concerns regard means and skills, which people do not have currently and are therefore not able to handle the implications of the design.

**Issue in current CSH:**

- It is not possible to simultaneously understand different interests and various methodologies deriving from those, within a comprehensive situation at the same time.
- It is not possible to identify different needs in the contexts applied through the practical implications of the methodologies and furthermore not possible to know which conditions to create that enable common learning and new value.
- Therefore determines and maintains the current framework the context for which actions are valid, that is to predetermine goals and does not allow to self-determine means to engage.

**Practical aspects I propose:**

- **Boundary judgments:** are to identify common needs within the comprehensive situation through issues between different interests, which are power-relations of the proposals practical implications. That is to identify conflicts between different interests referred to, see fig.4.

![Issues between different](image)

**Figure 4: Proposal for changes in boundary judgments**

- **Boundary critique:** is to identify from the context referred to, the context that is valid in order to learn what is not possible to do so far. This is to enable a transition of current knowledge, to the knowledge to be acquired in order to liberate an individual coercive situation. This interaction changes roles and rules of the proposed organization and redefines the purpose of the inquiry, see fig. 5, new boundary categories
- **Validity:** interactions between different contexts enables to evaluate the requirements for a new ideal situation that combines different kind of objectives that are interrelated and allows choosing means for learning throughout the whole system.
- **Legitimate:** is to achieve the common need practically without disconnecting interactions between different contexts intentionally.
Figure 5: Table of new boundary categories

<table>
<thead>
<tr>
<th>Boundary categories</th>
<th>Boundary issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CONTEXT</td>
<td>Source of coercion</td>
</tr>
<tr>
<td>2. Client</td>
<td>Sources of motivation</td>
</tr>
<tr>
<td>3. Purpose</td>
<td>Sources of power</td>
</tr>
<tr>
<td>4. Measure of</td>
<td>Sources of knowledge</td>
</tr>
<tr>
<td>Improvement</td>
<td>Sources of legitimation</td>
</tr>
<tr>
<td>5. Decision-maker</td>
<td></td>
</tr>
<tr>
<td>6. Resources</td>
<td></td>
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<tr>
<td>7. Decision</td>
<td></td>
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<tr>
<td>8. Professional</td>
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<tr>
<td>9. Expertise</td>
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<tr>
<td>10. Guarantee</td>
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<td>11. Witness</td>
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<tr>
<td>12. Emancipation</td>
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<tr>
<td>13. World view</td>
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- **Improvement**: is to create transparency about the intended situation in relation to what works practically out in a holistic perspective by redefining the purpose of the intervention, which changes the measure of performance while inquiring.
- **Discontinuous**: approach is needed in order to correct unintended effects of an inquiry instead of enhancing them.

**Justifying practice**

Possible to do with current CSH:
- In current CSH methodology new facts are taken into consideration by choosing an ideal context of validity for a proposal by the same means, derived from the same interest of practical judgments.
- Proposals are made independently from current individual needs without knowing if the solution can be of any practical use for the actual 'individual' situation.

**Issue in current CSH**:
- Conflicts cannot be resolved between different interests at the same time within the same situation the methodologies deriving apply to different contexts where value gets applied particularly without interactions within the comprehensive situation. No emancipation from current power-relations gets achieved for future practices.
- A logical derivation of the proposal’s validity for an intended whole situation is not possible, it is therefore not possible to plan.

Practical aspects I propose:
- To identify interrelations between the methodologies deriving from different interests in order to identify connections between different needs in different contexts, that is a common need of the whole situation. This is to justify current work practice through logical connections between interactions for a common interest.
- A debate on the basis of visualizations of human-machine relations planned, which is a reflective-practice on the basis of tangible object-properties and their effects that are created during an inquiry.
- A coherent argumentation about issues between different contexts applied through the practical implication of the proposals, to relate interactions among various
stakeholders to each other for making connections between different approaches and contexts referred to.

• A shift of perspective from observing to identifying responsibilities among sources and different interests by asking active boundary questions between them; the purpose is to agree upon trade off’s between different interests and to define actions for a common need see, fig. 6 on example of four boundary categories.

• To identify approaches and responsibilities, which are not involved into the inquiry.

<table>
<thead>
<tr>
<th>Client</th>
<th>Purpose</th>
<th>Measure of Improvement</th>
<th>Decision - maker</th>
</tr>
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<tbody>
<tr>
<td>Proposals</td>
<td>Proposals</td>
<td>Proposals</td>
<td>Proposals</td>
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Figure 6: Identifying responsibilities between boundary categories

Next I want to propose a new agenda for design inquiries on the basis of issues and proposals evolved through the critical examination of the current CSH-framework. This is to make the shift of perspective for design inquiries explicit.

A new agenda for design inquiries

There is an enormous gap between the emancipatory, informing and ethically correct attempt of the current CSH-framework for problem-solving and the everyday practice of design inquiries. As pointed out by Churchman, C. W. (1979), “Be your enemy. If you are your enemy, you can begin to learn what you your self are like”; that is in many ways more challenging than being concerned about others in a specific matter.

We need to rethink the role of the system in enabling interactions between various sources and different approaches in everyday work practices of people regarding their ideas to improve a situation. The challenge is to provide a methodology that gives cornerstones to relate to in order to express and connect ‘individual’ needs, claims and proposals to a comprehensive situation.

An objective visualization containing subjective perspectives of power-relations is necessary as a basis to identify people´s reasoning in order to make the underlying principle of the design situation tangible and possible to change intentionally.

The reason to propose a radical change in civil practices is an identified interrelation of ‘value-rational’ and ‘purposive-rational’ reasoning in peoples’ behavior that doesn’t serve common purposes to solve ‘true’ societal problems. Our proposals are meant to enable and dedicate interactions for correcting unintended effects of actions planned in the same role as designer and citizen. The intended interaction model is meant to enable a transition from current individual contexts to an improved common situation by proposing a model that is based on self-responsibility and directed towards interactions with the environment outside the existing system related to.

To this end, I propose such an alternative agenda, which focuses on the design of an information system for engaging citizens to contribute with their perspectives, needs and ideas about particular situations. The information system aimed for connects particular perspectives to provide a broader basis of information and argumentation. It argues for a significant shift from decision-making for people to proactive people; where information-design enables understanding among people regarding coherence of own perspectives and claims to identify own responsibilities. The information system is meant to enable people taking action together with partners that identify similar issues, reasons, in the “big
picture’ provided through a diversity of approaches for solving problems. Instead of presupposing objectives and ways how to achieve them it provides possibilities to convey and get to know ‘individual’ points of views; different objectives can be identified and combined to achieve coherent ways of composing particular solutions for dedicated purposes. Furthermore it argues that people rather than machines and systems take action, compose and be creative, ultimately in control of their interactions with the world, in novel and effective ways. Practical reason and by that the practicability of systems thinking will be underpinned by combining past, and future activities in actual practices. That extends what people currently do and with whom and how they interact through space and time in actual and particular interconnected situations. Ultimately, research and development should be driven by relations between parts rather than the parts them self.

Conclusion
Design methodologies need to provide tools that allow Designers to overcome each of their boundaries through their practice in order to see other needs than their own. That is to overcome a coercive situation and to liberate knowledge. Therefore I propose a shift from finding solutions for needs of others to change perspective to what each of us can do in own responsibility and wants to learn in order to improve a situation holistic. In pursuit of this idea it is necessary to be clear about the following questions:

- What is individual - common?
- What is private - public?
- What is the ‘real world’?
- What is the purpose of designing?

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