

The Centre for Systems Studies

A PRIMER TO CRITICAL SYSTEMS HEURISTICS FOR ACTION RESEARCHERS

WERNER ULRICH

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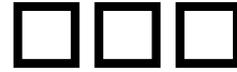
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A PRIMER TO
CRITICAL SYSTEMS HEURISTICS
FOR ACTION RESEARCHERS

Online Version of 10 August 2014



By *Werner Ulrich*^{1,2}



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1. ACTION RESEARCH, CRITICAL SYSTEMS HEURISTICS AND SOCIAL PLANNING, OR: THE ART OF PROMOTING IMPROVEMENT

1.1. Introduction

Action Research as I understand it is closely connected to processes of *social planning*. Sometimes it is a part of a planning process, sometimes it has to confront the consequences of planning efforts that did not sufficiently consider the needs of those affected. In the second case, planning is often the problem rather than the solution; it imposes solutions upon people that are not *their* solutions, as they had no voice in their making. This technocratic kind of planning is common. In an age dominated by one singular mode of knowledge production, that of institutionalised science, this hardly comes as a surprise. Ours is an age of the experts – and of those who can afford to pay them. What can we offer against this *monopoly of knowledge and power* from which ordinary people in all societies are excluded? A shared interest in this question, I think, is the common core of Action Research – particularly its strand known as Participatory Action Research³ – and of the strand of critical systems thinking to which this *Primer* is dedicated, 'Critical Systems Heuristics' (CSH).⁴ It is this core concern of CSH which directs my current project of developing and pragmatizing Critical Heuristics towards conveying its ideas and practical

³ See, e.g., the titles of the works of Hall, 1978; Hall, Gillette and Tandon, 1982; and Fals-Borda and Rahman, 1991; they all refer to the 'monopoly of knowledge', e.g. of science, government and industry. On my understanding of Action Research, compare Section 5 of the present paper.

⁴ The original work was entitled *Critical Heuristics of Social Planning* (Ulrich, 1983). As a convenient short label, I often use 'critical heuristics' (for the approach) or *Critical Heuristics* (for the book). The reader who is interested in CSH is advised also to consult the following sources: (a) as an introduction Ulrich 1987, 1993 and 1995 or 1996a; for German readers also 1984; (b) for a deeper understanding Ulrich 1988a, 1988b, 1994 and 1996b. These additional sources cannot, however, replace the book; rather, they may provide an easier access to it.

possibilities to ordinary people. I have chosen the name 'Critical Systems Thinking *for Citizens*' to make this concern clear (Ulrich, 1995, 1996a).

The aim, basically, is to give people *a voice* in matters that are important to them. But what does it mean to have a voice if that voice can always be silenced by disparaging its competence as compared to the experts? So it takes more than giving people a voice; we must also make those voices '*competent*', so that ordinary people can, in a sense, become what inherently they are – 'experts' of their own lives. This in turn requires us to change our ideas about what 'planning' is. A *new notion of social planning*, 'social' in the general sense of both socially relevant and societal, must become common. This is the basic starting point of Critical Heuristics. Critical Heuristics is about redefining our societal notion of planning, by giving people a new understanding and competence in matters of societal change. In its ideal, all people are *citizens*, that is to say, they are members of a *civil society* in which they have rights, and an active role to play. Such a role means that in matters of social planning, all citizens are to be considered, and must learn to consider themselves, as *planners*, co-producers of their future. In the ideal, the two roles of planners and citizens very often converge. Citizens become *citizen-planners*, and planners should see themselves as planner-citizens. Note that I am speaking about an ideal, not an assumption. I do not know how this sounds from the perspective of Action Research, but I imagine that the idea of rendering ordinary people citizen-planners rather than simply mobilising them 'against' the usual kind of technocratic, top-down planning is of interest to, and compatible with, the goals and hopes of action researchers.

1.2. The Art of Promoting Improvement

Let us begin, then, with a simple but different notion of *planning*, one that people can understand and that leads them (and us) away from the technocratic trap of believing in the superior rationality of expert-driven planning. 'Social planning' is usually practised as a form of purposive-rational action, i.e., a scientifically informed means for accomplishing a given end. In contrast, Critical Heuristics understands planning as *the art of promoting improvement*. This is one of my preferred definitions of planning. (My second favourite definition of planning is 'the art of making decisions that affect other people'; see Ulrich, 1984.)

Of course you might ask, Why speak of 'planning' in the first place if that label gives people wrong associations? Why not simply use another label? I would indeed prefer to do so but no label comes readily to mind that would not encourage similarly technocratic and elitist misconceptions. Labels such as 'management' of social issues, 'social systems design' or 'systems intervention' are examples. ('Action Research' might be your choice, but I cannot adopt this label here, as I want to explain the potential interest and use of 'my kind of approach' for 'your kind of approach', quite apart from the fact that there are a few important differences in the outlooks of the two approaches that I do not wish to blur.) I encountered this terminological difficulty from the beginning, when I decided to name my original work *Critical Heuristics of Social Planning*. I hesitated then as much as today to do so because the term '*social planning*' is often understood in a narrower way than I meant, as referring to the bureaucratic design of social services and programs only, and of course it often stands for the kind of expert-driven top-down planning that I do *not* mean. But the alternative labels sounded even more technocratic to me, although my usage depends on the audience that I seek to reach. When I address operations researchers and systems scientists I frequently use '*social systems design*' (e.g. Ulrich, 1987) or '*systems*

practice' (e.g. Ulrich, 1988a), and when I write for managers or management theorists I use *'management*' (e.g. Ulrich 1984 and 1994). In talking to ecologists I have used *'systems thinking and design*' (as compared to *'ecological thinking and design*', e.g. Ulrich, 1993); with policy analysts and evaluators in the public sector I have used *'policy analysis and evaluation*' (Ulrich, 1988b); and when I have in mind a broader audience of planning theorists, social theorists and practical philosophers, I also speak of *'critical systems discourse*' and *'critical systems practice*' (e.g. Ulrich, 1983 and 1996b) Whatever the labels, in all these cases I defined these concepts in a way similar to the one I propose for *'social planning*' (or for the sake of brevity, simply *'planning*'). So let me adopt this term for now, as it seems closest to my purpose of linking Critical Heuristics to Action Research.

As soon as we define planning as the art of promoting improvement, a crucial question poses itself imperatively and inescapably: *What constitutes an 'improvement'*? This is probably the central and most difficult issue of planning, for if we do not really understand what *'improvement'* means in a specific situation, how can we promote it?

The idea of a systematic unfolding of the meaning of *'improvement'* in a specific situation raises fundamental issues. They concern both the *knowledge* and the *ethics* of *'planning'*. Regarding knowledge, it is obvious that what we may recognise as a possible improvement depends on our knowledge and understanding of the situation of concern. For example, it is quite impossible reasonably to judge an option for improvement without understanding all the available, and ultimately all the conceivable, options. If we do not know what we might achieve with the available resources, how can we judge what is the best use of these resources? But what options are reasonable, and even more fundamentally, what options are conceivable in the first place, depends on our knowledge, which in turn depends on how we define (and delimitate) the situation of concern, i.e., the section of the real world that is to be considered as *'improvable'*.

Regarding the issue of ethics, another question arises immediately: who is/are 'we'? Improvement rarely means the same thing for everyone concerned. Promoting it inescapably implies preference; that is to say, it implies *choice* between the needs and values of different groups of *people*. Sometimes the choice is not really a choice, of course, but occurs through the mere dominance of certain needs and values of some people over those of others. The basic ethical point is that planning, except perhaps in a world of perfect harmony, invariably implies *conflicts* of needs and values. Conflicts are the stuff of ethics. It seems to me that the literature on Action Research avoids this issue when it locates the conflicts one-sidedly between 'the people' and 'the oppressors'. A commitment to the empowerment of people, to the emancipation and liberation of the oppressed and disadvantaged, is always good and hence raises no ethical issues. Or does it? I think it does, and I think Action Research cannot avoid them simply by referring to its emancipatory commitment, not any more than can Critical Systems Thinking. For the value conflicts are not always simply between the 'good guys' and the 'bad guys', or between 'the people' and those in control of the power-knowledge monopoly. Among 'the people', too, there exist different needs and hence genuine conflicts of values and interests, for *people are different*. Ethically speaking, the conflict is thus never between a definition of 'improvement' which is only good (e.g., because voiced by 'the people') and other definitions that are only bad (e.g., because imposed by top-down planning). Top-down-imposed definitions of improvement are ethically and democratically highly questionable, of course, but the point here is that *any* conceivable definition will have its ethical problems. Planning can never serve all those in need equally; it implies, as we have said, choice, and hence, responsibility. It is thus not sufficient, from an ethical viewpoint, to say that our efforts serve 'the people'. The inescapable ethical question is: How can we justify the value implications, let alone the 'rationality', of any proposal for 'improvement' in the face of conflicting needs and interests?

Critical Heuristics' answer is simple: we cannot. But this must not lead us into a bottomless ethical relativism and scepticism, for that would be ethically just as questionable as pretending that 'we' (whoever that is) 'know' what is good and right for the people, i.e., how conflicts are to be decided. Since from an ethical point of view no positive answer is ever available, in the sense that no conceivable definition of improvement can hope to be defended unambiguously and definitively, the only available path, ruling out dogmatism, is a critical one. Critical Systems Heuristics proposes such a *critical path*. To this end it uses, perhaps astonishingly, the *systems idea* – at first glance, yet another hopelessly technocratic concept! It has discovered how the systems idea can help us to tread a critical path in a manner that is not expert-driven but holds an emancipatory potential for ordinary people.

1.3. A Critical Path

A critical path toward improvement must aim to help ordinary people in dealing critically with both the issues I have mentioned, *what counts as 'knowledge'* and *what counts as ethically defensible 'improvement'*. Critical Heuristics provides a clear, generic and compelling way to do so. It explains how exactly knowledge depends on value judgements, and how value judgements depend on knowledge. On this basis it can provide ordinary people with a means to challenge knowledge claims, whether by experts or by anyone else, through demonstrating how these claims depend on debatable value judgements, and vice-versa. Critical Heuristics does not of course pretend that it can help people to 'prove' what in a specific case might constitute an improvement; it only aims to protect them against the pretensions of other people to 'know', or to know better. It can help them to question proposed improvements – 'plans' – in a systematic way, so as to make it clear to themselves and to others what 'improvement' means in each case.

'They' are the citizens (citizen-planners), professional planners and other people who may be involved in a planning effort, including decision-makers and experts. But where are those who are not involved but may nevertheless be affected or concerned? The methodology of Critical Heuristics gives *those affected* a systematic and competent role to play in its concept of 'rationality'. As distinct from much of the literature on Action Research that I have seen, Critical Heuristics does address the difficult but important philosophical issue of *what it means to be 'rational' in planning*, that is, how we can be 'competent', make cogent arguments as to whether some proposal for improvement is well justified or why not. Especially important, and to the best of my knowledge unique among all existing models of discourse, Critical Heuristics gives a competent role in discourse not only to those who are able to fulfil specified conditions of rational argumentation – usually philosophers – but also to ordinary people, i.e., to *citizens*. It uses the systems idea to show that there are forms of rational argumentation – more specifically, *rational critique* – that do not depend on any special knowledge beyond the reach of the ordinary citizen. These forms depend even less on possessing equal knowledge and access to information which is available to the professionals and decision makers who are the usual planners. (This is not to belittle these resources.)

Furthermore, Critical Heuristics regards citizens as 'witnesses': those citizens who have the opportunity to participate and voice their concerns are called upon also to represent the concerns of those who cannot speak for themselves, whether they be the handicapped, the unborn (the future generations), or non-human nature. More on this later.

So much for the basic ideal of Critical Heuristics. I do not say that this is all there is to it. I simply try to convey the spirit of one basic notion of the approach. It concerns the way how I try to deal with the problem of rationality (which includes the two issues I have mentioned, knowledge and ethics). I call it the '*critical turn*' away from our conventional,

holistic concept of rationality. I use the systems idea as a critical reminder rather than to buttress any claims to a 'whole-systems' kind of rationality, either on the part of systems designers or on the part of 'the people'. I want to help people secure a '*critical solution*' to the unavoidable question of rationality – What is a better, what a less desirable kind of improvement? – rather than a 'total' solution, one that would claim to 'know'. Any claim to knowledge (or rationality) in such matters runs a great risk of implying a technocratic utopia, one that is ultimately bound to design people and democracy out of the picture; for if it is possible for the right kind of experts to know what is the right (or 'rational') kind of improvement then there is little room for meaningful democratic debate and decision-making. This concept of a critical turn is not important at this point; I mention it only to make clear that Critical Heuristics is more than can be introduced here and certainly much more than a mere gimmick for teaching people critique; it is a design for an entirely different epistemology (theory of knowledge) and practical philosophy (theory of value justification, or ethics). If you are interested in the far-reaching implications of this understanding of the systems idea – an understanding that has led me and other systems colleagues to interpret systems thinking in terms of '*Critical Systems Thinking*' – then I invite you to consult the literature, especially the two early books which I still see as the main sources on Critical Systems Thinking (Ulrich, 1983, and Flood and Jackson, 1991b).

Returning now to my present purpose, what I have said so far about the purpose of Critical Heuristics amounts to an effort *to introduce 'critique' into our notion of planning* and to give it not only a systematic but indeed an unavoidable *emancipatory* part to play – 'unavoidable' in the sense that once people have understood its message, there is no way of going back to a pre-critical understanding of planning. This is why I used a famous sentence of Kant as the keynote to the introductory chapter of *Critical Heuristics*: "This much is certain, that whoever has once tasted critique will be ever after disgusted with all dogmatic twaddle...." (Ulrich, 1983, p. 19). As my reference to Kant may suggest, this

effort is philosophically based though practically oriented: it is based on a 'dialogical' (or discursive) reconstruction of Kant's Critical Philosophy, a reconstruction that was inspired by the *Theory of Communicative Action* of Jurgen Habermas (1984 and 1987) but which in distinction to it pursues neither a 'total' theoretical solution to the problem of securing rational action nor a consensus-theoretic approach. It pursues, rather, a discursive theory of practicable critique (see on this Ulrich, 1996b).

1.4. Summary

The purpose of Critical Heuristics can be summarised by describing it as a critical approach to democratic planning that aims

- (a) to develop a *critical consciousness* in people regarding the conditioned nature of any kind of 'improvement', and thereby to 'subvert' people's technocratic notion of planning; and
- (b) to give ordinary people that minimal *critical competence* (self-reflective and argumentative skills) which they need to translate such critical consciousness into meaningful and effective participation in planning processes.

Critical Heuristics has therefore two different, though closely related, applications:

- the first aims at *planners, experts and decision-makers* (the group of people who as a matter of fact have the say in a planning process, whoever they are and for whatever reason they gain this influence) and seeks to render them more self-reflective and democratically minded with respect to their quest for improvement;

- the second aims at *ordinary people* (all those who do not have the say but may in some way be concerned) and seeks to give them a competent voice, so as to render them less dependent on the goodwill and the abilities of planners, experts and decision-makers – in the critical ideal, to enable them to see and engage themselves as citizen-planners.

Critical Heuristics seems as yet little known among action researchers, although it might be of some interest to them.⁵ I assume that Critical Heuristics is in many ways less sophisticated than Action Research, for instance, with regard to techniques of 'research with and by the people' (non-elitist fact-finding) and of mobilising for social change (political agency, organising social movements, etc.). Critical Heuristics leaves such issues to other approaches. It does not understand itself as a self-contained 'method' of planning, although it is sometimes misunderstood as such (only to be accused subsequently of 'neglecting' issues of technical design, e.g. by Jackson, 1985, and Flood and Jackson, 1991a, p. 219). Rather, it seeks to complement and to change other approaches in such a way as to render them more self-critical (purpose a mentioned above) *and* to emancipate ordinary people from those who practise the approaches in question (purpose b).

As compared to Action Research, I think it is fair to say that the orientation of Critical Heuristics is different from it but is by no means incompatible with it:

⁵ David Schecter (1991) has perhaps been the first systems colleague to present Critical Heuristics to a small audience of Participatory Researchers in the United States. Among action researchers, Levin (1994) has been one of the first to consider the relationship between Action Research and Critical Systems Thinking. Despite these welcome efforts by Schecter and Levin, I do not assume that CSH is already well known to a wider community of action researchers.

- Critical Heuristics is *different* from Action Research in that it emphasises more the cognitive or, if you want, the 'intellectual' side of promoting improvement with and by the people; and different also in that it concentrates itself on its mentioned critical 'core business'. For that limited purpose, it provides – in my biased view – a promising, well-founded and generic approach. In particular, I think it holds a potential for bringing some methodological *rigour* into Action Research, one of those aspects where Action Research – to judge from the literature – appears to me rather weak.
- Critical Heuristics *shares* with Action Research a fundamentally non-elitist, emancipatory and anti-scientistic outlook, though it has its own specific ideas about how to break the usual monopoly of knowledge on the part of planners, experts and decision makers. I think we might usefully conceive of the two approaches as being complementary. Let me try to explain, then, as much as is possible in the limited space available here, how Critical Heuristics seeks to achieve its purpose.

2. THE BASIC IDEA OF CRITICAL SYSTEMS HEURISTICS: THE CORE CONCEPT OF 'BOUNDARY JUDGEMENTS', AND WHAT IT HAS TO DO WITH THE ART OF PROMOTING IMPROVEMENT

2.1. 'Facts', 'Values', and Boundary Judgements

All proposals for 'improvement' (plans) depend on assumptions about what 'facts' and 'values' are to be considered and what is to be left out. I call these assumptions *boundary judgements* because they define the boundaries of the planning effort, or *justification break-offs* because they define the point at which justification ends. The two concepts

have a common origin in systems theory: whenever we conceive of some part of reality in terms of a 'system', we need to make prior assumptions about what belongs to the system in question, or more accurately, what *should* be considered as part of the system and what should not.

An example that I owe to Gerald Midgley (1992, p. 14) and which I adapt here, may be helpful. Let us think of a business firm in need of a 'turnaround' (social system A). Imagine, too, that that business is an important employer in its community (social system B). Lay-offs are in the air. Community officials contact the firm and remind the chief executive of the company of its importance and responsibility for the community. The managers and consultants face an ethical conflict, namely, between providing employment opportunities to the community (system B) and ensuring the survival of the company as an important employer, thus preserving at least the jobs of the remaining employees (system A). How they decide will depend heavily on the status of the unemployed in the larger society (social system C). Should the unemployed – or those who might have to give up their jobs for the sake of allowing the business to survive – be considered to belong to the system of concern or not? What *is* the 'system of concern', social system A, B, C or something else? In practice, the answer leans toward the short-term survival needs of the company (system A), since those who may lose their jobs (systems B and C) are for the managers less important than the business 'as a whole'. Being unemployed is not, in Midgley's term, a 'sacred' status, as it is considered normal that those who lose their jobs no longer belong to the system for which their earlier employers are responsible. The unemployed are truly 'marginalised', that is to say, the plan for improvement (for getting the turnaround) does not consider their interests as among the 'facts' and 'values' contributing to the system of concern (A). This allows the managers to find an effective and ethically defensible solution to *their* problem – lay-offs. If their boundary judgement were different, this 'solution' might not be adequate, either in terms of its ethics (the values

it considers and how it weights them) or its effectiveness (the facts it considers and how it takes them into account). The justification of the plan could not stop with the narrower of the two alternative boundaries of the system of concern.

Generally speaking, the facts that we consider relevant for improvement, as well as the value judgements or ethical issues at stake, will look different whenever we change underlying boundary judgements. Value judgements can make us change boundary judgements, which makes the '*facts*' look different. Knowledge of new facts can equally make us change boundary judgements, which in turn makes our previous '*values*' look different. We have here a precise explanation of the interdependence of facts and values, an interdependence that is often asserted but rarely if ever explained in precise terms.

2.2. Critical Systems Thinking

The first field of thinking that you would expect to consider the implications of this explanation is surely systems thinking. You would be wrong! Systems thinkers nowadays like to see themselves as 'systems scientists'. Their business is the serious science of complexity. They have little time and even less interest in dealing with value judgements and the like. Yet from the viewpoint of Critical Heuristics, without the will to surface the boundary judgements that condition our 'systems' considerations it makes little sense to use systems thinking as a conceptual tool! We do not need the systems concept at all if we are not interested in handling systems boundaries critically. Is this perhaps why so many systems scientists seem to confuse systems thinking with a branch of mathematics?

Be that as it may, for me boundary judgements are indeed a core concept of systems thinking. Here I locate the *fundamental critical kernel of systems thinking*. This is bad news, of course, to those who are looking for clean, 'objective' and 'scientific' problem

definitions and solutions. They will not, as a rule, like the idea of Critical Systems Thinking but rather, try to ignore it. But note: the difficulty is not *caused* by the systems idea. The systems idea is merely the messenger that brings us the 'bad news'. Ignoring the bad news is no more intelligent than making the messenger responsible for it (Ulrich, 1981, and 1983, p. 225). The bad news is the *problem of holism*: a sufficient justification of improvement would require us to consider 'the whole system' of all the facts and values that could lead to alternative conceivable options for understanding improvement – an endless undertaking.

Critical Heuristics proposes a conceptual framework that should help us to deal with the bad news. This does not at all mean that we all need now to speak systems jargon. Once we have listened to the messenger and understood its message, it is not so important what terms we use but only that we do take the message seriously. Thus, in Critical Heuristics I often use the more precise term 'context of application' instead of 'system of concern'. This is more precise because thinking in terms of improving the system of concern may require us to consider a wider context of given circumstances and consequences, whereas for the present context it is quite sufficient and convenient just to speak of a 'plan', in the sense of a proposal (design) for improvement.

2.3. Summary

The basic idea is, then, clear: In order to reflect systematically about a proposed plan's validity, it is never a bad idea to surface the underpinning boundary judgements and to trace their live practical implications for the different parties concerned, e.g., by systematically altering them and checking how the plan then looks different. A very good plan should make its underlying boundary judgements explicit and point out how its

concept of 'improvement' might look different if alternative boundary judgements were chosen. But not all plans are very good plans. Hence it is important that people be able to challenge plans – by learning to make visible to themselves and to others that, and how, plans depend on boundary judgements. The point of such *boundary critique* is of course that when it comes to boundary judgements, there are no definitive experts. In respect to these judgements, those who have the advantage of knowledge and/or power on their side are just as much lay people as anyone else. Or, to say it more bluntly, when it comes to debating boundary judgements, experts do not look good. Nor do decision makers, usually. Citizens, once they have got the idea, have a real chance to be just as competent as those who 'know better' and to influence the way plans look. This provides us with a crucial leverage point. The question is only, how can we identify and discuss such boundary judgements in a systematic way?

3. HOW CRITICAL SYSTEMS HEURISTICS WORKS

3.1. The Derivation of the Critically-Heuristic Categories

Critical Heuristics uses a conceptual framework that consists, among other things, of a set of twelve basic types of boundary judgements. They can be put together in the form of a checklist of twelve *boundary questions*. Each question refers to a basic boundary concept or 'category'. One such category, for example, is the 'client'; it refers to the group of people who are to benefit from a plan, the people whom the plan is to serve in the first place. Other possible terms would be 'beneficiaries', or 'people in need', or whatever. The terms I use are not important and should not cause irritation because of a certain 'consultancy ring', or for any other reason, e.g. because they might be used differently in Action

Research. What matters is their underlying intent, i.e., the issues that they are meant to address. Dependent on the application, you can choose your own terms – so long as these terms serve to remind you of the intent of the twelve boundary questions.

Now, to the derivation of the twelve categories. Since *human intentionality*⁶ is constitutive of the meaning of 'improvement' in social planning, the underlying categories address people primarily, rather than material social issues or time and space in the first place, though all three types of boundary judgements are relevant. It is people on whom the meaning of improvement depends first of all, for they possess the sense of purposefulness, the power, knowledge and sense of responsibility that together determine *what ought to count as 'improvement'*. Material issues, even if they are related to non-human nature (e.g., environmental concerns), are always *somebody's* issues; they become concerns for improvement through the testimony of people who bear witness to them. As for time and space, they similarly enter planning through the intentionality of people; they are contained in the delimitation of the group of people who ought to define the social reality in question and whose concerns accordingly ought to be included in the system of concern (e.g., the local vs. other communities; the present vs. future generations).

Based on this elementary conjecture, the categories were originally derived from what social researchers would call a '*dimensional analysis*', namely, of the concept of the 'system of concern' – the context of application – that is relevant for determining the meaning of 'improvement'. The question was, What kinds of justification break-offs invariably condition our understanding of 'improvement', since they determine what concerns enter the planning process and count as relevant?

⁶ On the constitutive role of human intentionality for the construction of the conceptual framework of Critical Heuristics – its mapping dimensions, categories and critical ideas – see Ulrich (1983, p. 236-239).

There are basically two grounds on which anyone can claim relevance for his or her concerns:

(a) because that person lives, or will (or might) have to live the social reality in question and thus is actually or potentially *affected* by the 'improvement' in question; or

(b) because she has some kind of resources (in the widest sense of the term) to contribute, e.g. expertise, political or financial support, and for this reason is or might be factually *involved* in the planning process.

Hence the dimensional analysis evolved around the basic distinction of 'those involved' and 'those affected' (but not involved). Different types of social actors were then identified according to distinct *social roles* in the planning process: those who have the benefits; those who have the say; those who have the knowledge; and those who merely have to bear the side-effects and costs. Next, the specific types of *concerns* they contribute to the determination of 'improvement' were distinguished. Finally, the crucial issues that can arise from the *clash* of these concerns with those of other social actors had to be considered, for how such clashes are handled, too, determines the meaning of 'improvement'.⁷ To all these constituents, categories were then assigned that are meant to stand for the justification break-offs that they imply.

Figure 1 summarises the process.

⁷ For an explanation see the paragraph 'Understanding the intent of the boundary questions' in Section 4.

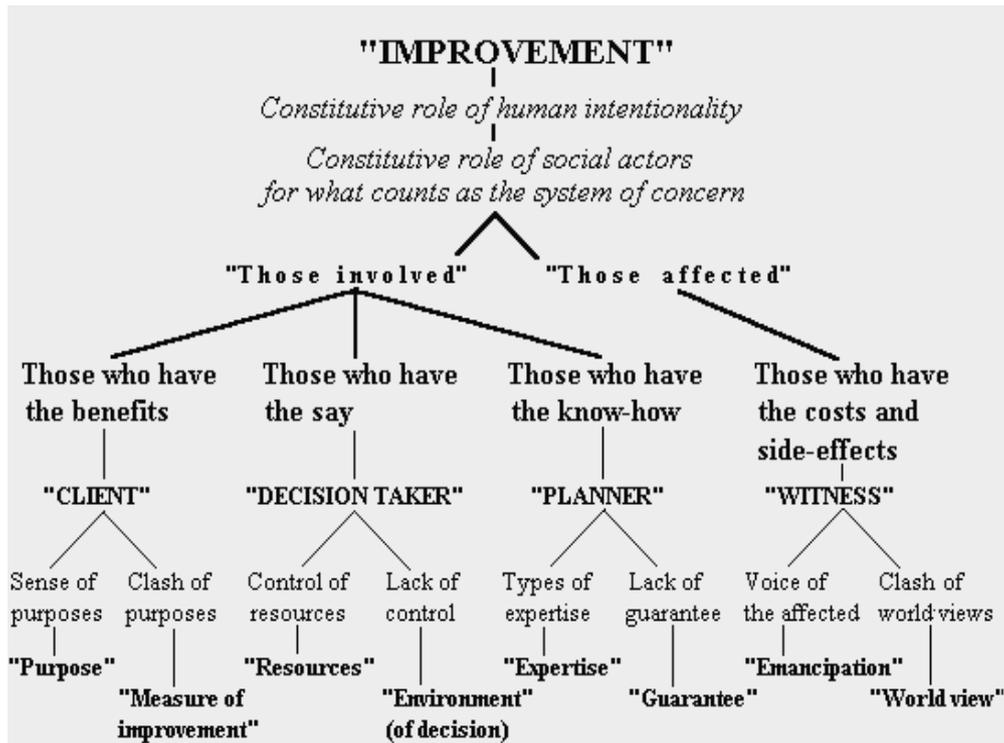


Fig. 1. Dimensional analysis of the sources of intentionality that determine the meaning of 'improvement'

I will not explain here in any more detail how the twelve boundary judgements were derived, but rather proceed now to showing how they are organised and how you can use them systematically; for that is what matters if you want to try and experience their critical significance yourself. For a more complete explanation of the underlying categories I advise you to consult the original work.⁸

⁸ See Ulrich, 1983, pp. 231-258.

3.2. The Organisation of the Critically-Heuristic Questions; a Checklist

The twelve boundary questions are arranged in four groups of three questions each. As we shall see, all questions need to be asked both in an *'ought'* mode and in an *'is'* mode; I will first introduce them in the *'ought'* mode, as this one usually comes first (Part 1 of the checklist).⁹ The same questions follow in the *'is'* mode (Part 2). I have used a separate page for each group of questions so that it is possible to photocopy them. (Please do not distribute them without indicating the source.) Since each part consists of four groups of questions, the entire checklist will then consist of eight pages.

As a visual help for distinguishing the two quite similar parts of the checklist, one of the following symbols is shown on each page:



symbolises 'vision' (as of a mountain landscape at the horizon) and refers to the questions for the *'ought' mode*: What ought to be the case?



symbolises 'recording' of empirical perceptions and critical observations (as by means of a tape recorder) and refers to the questions for the *'is' mode*: What is actually the case?

⁹ On earlier occasions I introduced the critically-heuristic categories and questions in similar, though slightly different formulations; compare Ulrich (1983, p. 253ff; 1987, p. 279f; 1993, p. 597). Other authors have also reproduced them or reformulated them slightly, compare, e.g., Flood and Jackson (1991a, p. 206f; 1991c, pp. 292-297); Jackson (1991, p. 191); and Flood (1993, p. 182f; 1995, p. 214ff).

A CHECKLIST OF CRITICALLY-HEURISTIC BOUNDARY QUESTIONS



Part 1: 'ought' mode

❶ A Plan's Basis of Motivation

('ought' mode)

The first group of boundary questions concern a plan's *sources of motivation* — the sources of value orientation and purposefulness that *ought* to underpin the plan or, better, should be built into it.

- The idea is that if we understand these sources of motivation, it will be easier to determine what ought to be the plan's value assumptions and, even more importantly, its implications for practical life.
- Since no plan can serve everyone concerned equally well, it implies choice. So we should try to understand what choices ought to be built into the plan, i.e., its bias.

The questions are:

THE PLAN'S SOURCES OF MOTIVATION

1. Who ought to be the plan's *client*? That is, whose interests ought to be served?
2. What ought to be the plan's *purpose*? That is, what ought to be the consequences?
3. What ought to be the underlying *measure of improvement*? That is, how should we determine whether and in what way the plan's actual consequences, taken together, constitute an improvement?



② A Plan's Basis of Power

('ought' mode)

The second group of boundary questions concern a plan's *sources of control* — the sources of decision power and the means that *ought* to be available to realise the plan.

- The idea is that if we understand these sources of control, it will be easier to determine what ought to be the plan's boundary assumptions regarding the scope of the plan and, even more importantly, what it should leave out of consideration.
- Since no plan can or even should control all the conditions on which its success depends, it is important to determine the 'decision environment', i.e., those crucial aspects which must be assumed to be beyond the plan's reach. So we should try to understand what conditions of success the plan and those involved ought to control and what other conditions ought to be beyond their reach.

The questions are:

THE PLAN'S SOURCES OF CONTROL

4. Who ought to be the *decision-maker*? That is, who ought to be in a position to change the plan's measure of improvement?
5. What *resources* and other conditions of success ought to be controlled by the decision-maker? That is, on what sources of decision power should the plan rely?
6. What ought to belong to the plan's *environment*? That is, what conditions ought the decision-maker *not* to control (e.g., from the viewpoint of people who are not involved)?



③ A Plan's Basis of Knowledge

('ought' mode)

The third group of boundary questions concern a plan's *sources of 'knowledge'* — the sources of information and know-how, of expertise, experience and skill, that *ought* to be considered as relevant.

- The idea is that if we understand these sources of knowledge, it will be easier to determine what ought to be the plan's boundary assumptions regarding relevant 'facts', i.e., what ought to count as 'knowledge' and, even more importantly, what facts need not be considered to constitute relevant 'knowledge' and hence can be safely ignored.
- Since no plan can consider all potentially relevant knowledge, it cannot guarantee success, in the sense that the plan might either not be implemented as intended or, if implemented, fail to secure improvement. So we should try to understand on what sources of (imperfect) guarantee the plan ought to rely and how they might become sources of failure.

The questions are:

THE PLAN'S SOURCES OF KNOWLEDGE

7. Who ought to be involved as *planner*? That is, who ought to be considered 'competent' to participate in the drawing up of the plan?
8. What *expertise* (special knowledge or experience) ought to be brought in? That is, who should be considered an expert, for what kinds of knowledge or skills, and what role should experts play? In other words, what ought to count as relevant 'knowledge'?
9. Where should the people involved see the *guarantee* that the plan will be implemented and will work? That is, what or who should be assumed to provide some guarantee of improvement (e.g., consensus among experts, the involvement of many groups of people, the experience and intuition of those people involved, political support)?



4 A Plan's Basis of Legitimation

('ought' mode)

The fourth group of boundary questions concern a plan's *sources of legitimation* — the question of what *ought* to be the sources of justification vis-à-vis those people who are or may be affected without being involved.

- The idea is that if we understand these sources of legitimation, it will be easier to determine what ought to be the plan's ethical assumptions and, even more importantly, what ethical conflicts should be dealt with.
- Since no plan can give an equal voice to all people and serve them all, it will inevitably leave out some people's interests and impose undesired consequences on others. So we should try to understand in what way the plan ought to be responsible for the consequences it imposes on those affected. Lest it should treat them merely as a means, how should the plan make sure that their interests are not completely ignored?

The questions are:

THE PLAN'S SOURCES OF LEGITIMATION

10. Who ought to be *witness* to the interests of those affected but not involved? That is, who should argue the case of those who cannot speak for themselves but may be concerned, including the handicapped, the unborn, and non-human nature?
11. To what extent and in what way ought those affected be given the chance of *emancipation* from the premises and promises of those involved? That is, how should the plan treat those who may be affected or concerned but who cannot argue their interests?
12. On what *world views* ought the plan to be based? That is, what are the different visions of 'improvement' among both those involved and those affected, and how should the plan deal with these differences?

A CHECKLIST OF CRITICALLY HEURISTIC BOUNDARY QUESTIONS



Part 2: 'is' mode

1 A Plan's Basis of Motivation

('is' mode)

The first group of boundary question concern a plan's ***sources of motivation*** — the sources of the value judgements and of purposefulness that are built into it.

- The idea is that if we understand these sources of motivation, it will be easier to identify the plan's value assumptions and, even more importantly, to assess its probable implications for practical life.
- Since no plan can serve everyone concerned equally well, it implies choice. So we should try to understand what choices are built into the plan, i.e., its bias.

The questions are:

THE PLAN'S SOURCES OF MOTIVATION

1. Who is the plan's *client*? That is, whose interests does it actually serve?
2. What is the plan's *purpose*? That is, what are the actual or potential consequences, including unintended or unforeseen side-effects?
3. What, judged by its (actual or anticipated) consequences, is the plan's built-in *measure of improvement*? That is, how does it measure whether and to what extent the plan's consequences, taken together, constitute an improvement?



② A Plan's Basis of Power

('is' mode)

The second group of boundary questions concern a plan's *sources of control* — the sources of decision power and means that are available to realise the plan.

- The idea is that if we understand these sources of control, it will be easier to identify the plan's boundary assumptions regarding the scope of the plan and, even more importantly, what it leaves out of consideration.
- Since no plan can or even should control all the conditions on which its success depends, it is important to know the 'decision environment', i.e., those crucial aspects which are beyond the plan's reach. So we should try to understand what conditions of success the plan and those involved control and what other conditions are beyond their reach.

The questions are:

THE PLAN'S SOURCES OF CONTROL

4. Who is the *decision-maker*? That is, who is in a position to change the plan's measure of improvement?
5. What *resources* and other conditions of success are controlled by the decision-maker? That is, on what sources of decision power does the plan rely?
6. What belongs to the plan's *environment*? That is, what conditions does the decision-maker *not* control?



③ A Plan's Basis of Knowledge (‘is’ mode)

The third group of boundary questions concern a plan's *sources of 'knowledge'* — the sources of information and know-how, of expertise, experience and skill, that are considered as relevant.

- The idea is that if we understand these sources of knowledge, it will be easier to identify the plan's boundary assumptions regarding what 'facts' are relevant, i.e., what counts as 'knowledge' and, even more importantly, what facts are ignored or not considered to constitute relevant 'knowledge'.
- Since no plan can consider all potentially relevant knowledge, it cannot guarantee success, in the sense that the plan might either not be implemented as intended or, if implemented, fail to secure improvement. So we should try to understand on what sources of (imperfect) guarantee the plan relies and what potential sources of failure it contains.

The questions are:

THE PLAN'S SOURCES OF KNOWLEDGE

7. Who is involved as *planner*? That is, who is considered 'competent' to participate in the drawing up of the plan?
8. On what *expertise* (special knowledge or experience) does the plan rely? That is, who are considered the experts, what kinds of knowledge or skills do these experts actually contribute, and what role do they play? In other words, what counts as relevant 'knowledge'?
9. Where do the people involved see the *guarantee* that the plan will be implemented and will work? That is, what or who is assumed to provide some guarantee of improvement (e.g., consensus among experts, the experience and intuition of those involved, political support)? To what extent may these assumed guarantors be false or imperfect guarantors?



4 A Plan's Basis of Legitimation

('is' mode)

The fourth group of boundary questions concern a plan's *sources of legitimation* — the sources of justification vis-à-vis those people who are or may be affected without being involved.

- The idea is that if we understand these sources of legitimation, it will be easier to identify the plan's ethical assumptions and, even more importantly, to uncover its ethical deficiencies.
- Since no plan can give an equal voice to all people and serve them all, it will inevitably leave out some people's interests and impose undesired consequences on others. So we should try to understand in what way the plan is responsible for the consequences it imposes on those affected. Lest it should treat them merely as a means, how does the plan make sure that their interests are not completely ignored?

The questions are:

THE PLAN'S SOURCES OF LEGITIMATION

10. Who is *witness* to the interests of those affected but not involved? That is, who argues the case of those who cannot speak for themselves but may be concerned, including the handicapped, the unborn, and non-human nature?
11. To what extent and in what way are those affected given the chance of *emancipation* from the premises and promises of those involved? That is, how does the plan treat those who may be affected or concerned but who cannot argue their interests?
12. On what *world views* is the plan based? That is, what are the different visions of 'improvement' among both those involved and those affected, and how does the plan deal with these differences?

4. A FEW COMMENTS ON THE CRITICALLY-HEURISTIC QUESTIONS

The two sets of boundary questions may look simple or harmless at first. But they should be tried before a judgement is made. In practice, these questions regularly turn out to be quite incisive and can generate a considerable amount of substantial reflection and debate. Sometimes they are difficult to answer, which need not be interpreted as a symptom of their uselessness but rather as indicating that they touch on fundamental issues. Their critical power can best be experienced in practical application. The way they are used will determine their critical significance; for this reason, I would like to give a few hints. They are only hints; anything else would burst the framework of this short primer. I will therefore give frequent references to the original sources where more information can be found.

4.1. Understanding the Intent of the Boundary Questions

First of all, it can be seen that the three questions in each group address somewhat parallel issues. The first question addresses a social *role* rather than an individual person. In practice, it will usually refer to a number of different persons or groups rather than to one person only. The second question is meant to address role-specific *concerns*, and the third relates to the *key problem* that is crucial for understanding the previous two boundary judgements. For instance, in the first group of questions, there are usually a number of purposes that a proposal for improvement ought to include in order to serve the intended client well, if only because 'the client' often comprises a heterogeneous group of people with different concerns. Except in ideal cases, these concerns tend to compete with one another; that is to say, the extent to which we can achieve one purpose depends on how

much we want to achieve (or are willing to sacrifice) with respect to the other purposes. As long as we do not understand how the trade-offs between these purposes are to be determined, i.e., how much of the one is worth how much of each other purpose to the client, we do not really understand how 'improvement' is to be defined; this is why the key problem with respect to the first group of questions consists in determining the 'true' measure of improvement – 'true' both in the 'ought' and in the 'is' mode. For a more complete explanation of the critically-heuristic categories as embodiments of unavoidable boundary judgements, see their original introduction in *Critical Heuristics* (1983, Ch. 4, there pp. 225-258, esp. pp. 244-258).

4.2. Understanding the Interdependence of Boundary Questions

As you also may have noted, not only the three questions in each group but also the four groups are interdependent; that is, the answers to one group of questions help determine the answers to the other groups. For instance, a plan's selectivity with respect to purposes (*whose* interests do they reflect?) helps us to understand not only its basis of motivation but also its basis of power, for the distribution of power obviously codetermines the distribution of benefits; the latter can thus help us in tracing the sources of control, and vice-versa. Similar connections can be made to a plan's knowledge basis and to the legitimation basis. Together, the four groups of boundary judgements provide a 'rich picture' of a plan's fundamental anatomy of purposefulness.

4.3. Understanding the Importance of the 'Is' and 'Ought' Modes

One of the most important considerations in applying the boundary questions for systematic boundary critique concerns the use of the two suggested modes for *evaluating* a plan. The 'is' and the 'ought' modes are closely related; only together can they unfold their critical power and drive the process of unfolding a plan's normative and empirical content. The 'ought' mode will usually (but not always) come first, for it provides us with a standard for subsequently evaluating the 'is', i.e., the boundary judgements actually contained in the plan. This has the additional advantage of preventing us from submitting to any illusion of objectivity: contrasting 'is' and 'ought' boundary judgements provides a systematic way to evaluate the value content of a plan – its underlying concept of 'improvement' – while at the same time exposing the value basis of the evaluation itself. When used for the purpose of debate, this means that the boundary judgements cannot easily be used dogmatically but rather lend themselves to critical purposes only (as they should). For instance, if evaluations regarding 'Who ought to be the client?' are required to precede evaluations regarding 'Who seems to be the client of this plan?', then he who challenges a plan's normative assumptions must also make clear his own normative assumptions. It is because a self-critical employment of the 'is' mode depends on the 'ought' mode that the latter should as a rule be used first.

The use of the 'ought' mode is, by contrast, possible independently of the 'is' mode. This is an application of Critical Heuristics that I practice with good success in my own professional life and which has become fundamental to my understanding of planning, I mean the use of the critically-heuristic categories for the purpose of *'ideal planning'* or, in R. Ackoff's (1974, 1981) terms, *'idealised design'*. The boundary questions, because they touch upon fundamental issues with regard to the meaning of 'improvement', are ideally

suited for this purpose.¹⁰ (For an explanation, see Ulrich, 1988b; for an illustration, see the two case studies in Ulrich, 1983, Ch. 7 and Ch. 8). In my view, a sound planning process should virtually always begin with a stage of ideal planning; in some cases it can be helpful to start the process by a previous application of the 'is' mode to the existing situation, for even if we do not always know quite clearly what it is that we are striving for, we know quite clearly what we do *not* want to project forward into the future: namely, the present state of affairs!

4.4. Pluralistic Evaluation

Each question can and should be answered from different viewpoints. In particular, the questions should be considered not only from the standpoint of those involved but also from the perspective of those not involved but concerned or (potentially) affected. If this line of thinking is continued systematically, we arrive at another key concept of Critical Heuristics, that is, the idea of supporting systematic boundary critique through a '*process of unfolding*', namely, of the normative and empirical selectivity of plans.

¹⁰ This constitutes an application of Critical Systems Heuristics that has remained rather neglected in the second major strand of Critical Systems Thinking, 'Total Systems Intervention' (Flood and Jackson, 1991; Jackson, 1991). In its classification of systems methodologies, Critical Systems Heuristics figures merely as an emancipatory method for the critique of 'coercive' situations but apparently has no role to play as a design-oriented approach to planning tasks in general. Only recently, Flood (1995, p. 212) has begun to acknowledge the usefulness of Critical Heuristics for idealised design, though the name he gives to Critical Heuristics, 'Critically Evaluating Design and Decisions' (CEED), still seems chosen too narrowly in this respect. This is quite apart from the fact that Critical Heuristics already has its established name which actually refers to both elements, the *creative* element of discovering or unfolding issues and ideas ('heuristics') and the *critical* element of making 'solutions' (and the underlying definitions of 'the problem') the problem ('critique'). For me, design and evaluation, or creativity and critique, are too closely interdependent to assign them to different classes of problem-solving situations and/or problem-solving methods.

4.5. The 'Process of Unfolding'

I have devoted an entire chapter of *Critical Heuristics* (Ulrich, 1983, Ch. 5) to this concept and also explained it on other occasions (Ulrich, 1987, p. 281f; 1993, pp. 599-605); in addition, there is an easily accessible introduction to the process of unfolding (Ulrich, 1988b) which also suggests and illustrates a scheme for operationalising the process. I therefore restrict myself here to mentioning a few basic ideas:

Systematic alteration of boundary judgements. The process consists basically in using the critically-heuristic categories or boundary questions for a systematic, iterative expansion and narrowing-down of the considered context. This helps to identify boundary judgements. It also helps to surface and debate their value content, by tracing and contrasting the live practical implications of alternative ones. This process is apt to reveal the selectivity or partiality of any design for improvement. It is basic to self-reflection, mutual understanding and controversial debate on the meaning of 'improvement'.

Alternative planning roles. One way to achieve a systematic expansion and narrowing-down of boundary judgements is to conceptualise the role of the planner in changing ways, from mere 'means planning' via 'goal planning' and 'purpose planning' to the before-mentioned 'ideal planning'. One can then look at all the other boundary categories, both with regard to the 'ought' and the 'is', from these changing viewpoints. This is usefully done in the form of a circular, iterative process; see on this especially Ulrich (1988b).

Ethical boundary critique. The process of unfolding, apart from stimulating both creativity and critique, is also meant to help us overcome a merely 'pluralistic' position that would ultimately imply a bottomless relativism of values. In particular, the process of expanding systems boundaries tends to have strong ethical implications, in that the

meaning of 'improvement' becomes related to an ever bigger sphere of concerns. This widens the perspective beyond that of the directly involved people, in that it requires those who participate (at least conceptually) to include step by step more stakeholders. First they need to include all those directly affected but not present; next, perhaps, less directly affected or only potentially concerned members of the local community; then the interests of other local communities; then the bigger political community (state) of which these participants are also members and in which they exercise their rights and responsibilities as citizens; and furthermore, they must include other kinds of interest groups, future generations, nature, etc. This is not to say that it is always necessary or reasonable to defend a plan in terms of the interests of entire humanity. It is necessary, however, to surface and debate ethical options and conflicts critically. Critique in this sense of awareness-raising, of exposing for everyone the moral implications of a proposed 'improvement' for all those affected or concerned, is reasonable even though it cannot, and should not, stop us entirely from acting on behalf of limited (e.g. local) concerns. In an imperfect world, perfectly rational action is non-existent, but inaction is not an ethically defensible option either.

The point is ultimately *democracy*; for ethics can hardly bypass democracy and leave decisions on what is good and just for people to a few experts who are assumed to know better. Nor can ethics any more than democracy defer to some higher authority that will decide in view of its own specific interests. In a true democracy, there is no higher authority. There is only a temporary delegation of legislative, executive and judicial functions to elected authority-holders (the 'state') who remain accountable to the people organised as a political community. It is authority-holders who are accountable to people, not the other way round. This is not merely an ideal definition of democracy; it is the only possible one. It is people *as citizens*, i.e., as sovereign (free and equal) members of a political *community* which they constitute by their own will, who must 'know' what kind of boundary judgements are adequate to what issue. The concept of citizenship means that members of

a political community grant one another the *same* citizen rights, and that the holders of authority are accountable to *all* members *equally*; in that sense, democracy has an ethical basis and the practice of ethics is inseparable from the practice of democracy.

One need not romanticise 'the people' in order to see them as the only possible guarantor of ethics.¹¹ The point is less to rely on romantic ideas of natural harmony and altruism among 'the people' than to embark on a systematic effort to reduce asymmetries of power, knowledge, education and, quite generally, to increase the chances for meaningful participation. The ethical critique of boundary judgements can contribute to this never-ending effort.

It remains of course a fact that no choice of boundary judgements, even if it is the outcome of democratically legitimate and authentic will-formation, will ever be ethically defensible in a strict sense, i.e. ethically perfect. The majority are not always ethically right, and citizens are not always altruistic. The ethical quality of democracy must not, however, be reduced to a simple question of altruism vs. egoism on the part of citizens; nor is it a simple matter of majority rule. A well-organised democratic process includes, for example at the constitutional level, democratic will-formation about issues such as protection of minorities and equal rights *prior* to votes on specific issues, so that citizens find themselves behind a 'veil of ignorance' (Rawls, 1971) regarding their interests in later specific issues and will commit themselves to basic ethical principles such as equal rights

¹¹ As much as I sympathise with the idea that ordinary people do indeed maintain altruistic, cooperative and genuinely democratic values that are rooted in cultural traditions, as described for instance by Orlando Fals-Borda (1991, p. 5), I agree with Peter Reason's (1994, p. 335) observation that there is a certain tendency among participatory action researchers to "romanticise the goodness and democratic tendencies of the common people, and to ignore the ways in which all groups may be destructive and distort their experience". I think our concern for the empowerment of disadvantaged people ought to go along with a concern for the epistemological and ethical issues at stake, and for contributing to these issues in methodologically rigorous ways – not as a replacement but as a basis for genuine democratic will-formation among people.

and rules of minority protection because they have a genuine interest in fairness for all. Equally, a well-organised democratic process includes organisational measures that ensure to people occasions for meaningful participation in public debate, e.g., the provision of easily understandable but balanced, high-quality information on the issues in question. A democratic system must also strive to give people basic skills in citizenship (I imagine something like a 'critically-heuristic training for citizens', compare Ulrich, 1983, p. 407; and 1993, p. 608). It is precisely because of the inevitable ethical imperfection of boundary judgements that it is important that democratic will-formation about them be based on a careful surfacing of ethical issues, and on a debate of these issues in a public sphere where citizens have manifold chances to express their concerns. What is especially important is that those who may be on the 'losing side' of an ethical position are given due consideration as ends-in-themselves rather than as a means for the purposes of others only, as the categorical imperative (Kant) demands, and that they are also given a 'competent' voice. *Ethical boundary critique* provides a basis for this; a specific application of boundary judgements, their 'polemical' employment, can enable those affected but not involved to achieve this (see below). They will not, however, be able to prove the superior rationality of *their* position any more than those who may have the advantage of knowledge and power on their side. The ethical use of boundary critique, like any other use, is a merely critical one, but as such it is rationally compelling. Ethical boundary critique must stop at this point and hand over issues to democracy.

I think it is important not to confuse such a self-limitation of methodology and research with a mere ethical relativism. Of course no discursive approach and no methodology can alter the fact that ultimately ethical issues have to be decided on the basis of decision power; there is no replacement for the democratic control and distribution of power. Methodologies and research strategies certainly have no legitimation to replace democratic processes, but what they can try to contribute legitimately is to make

democracy meaningful, by improving the basis of knowledge and understanding of citizens, so that ethical issues become apparent and can be taken up by concerned people through participatory, democratic processes of will-formation. *The ideal is not to make democracy redundant but to make it alive and meaningful.* If not only professionals, decision-makers and planners but ordinary people learn to 'see' ethical issues in the terms of ethical boundary critique, democracy will indeed be alive and meaningful.¹²

'Critically-heuristic ideas'. One help that Critical Heuristics provides for treating the lack of comprehensiveness, and the resulting selectivity, of boundary judgements is its three underlying 'critically-heuristic ideas' – the 'systems idea', the 'moral idea', and the 'guarantor idea'. Each of these ideas is interpreted as an unavoidable idea of reason that furnishes standards for assessing given proposals. See Ulrich (1983, p. 257-264). Along with two other basic ideas of Critical Heuristics, the 'democratic principle' (or democratic idea) and the concept of 'design and assessment of purposeful systems' (or the idea of internalisation of motivation),¹³ we have thus five major guiding ideas for critically-heuristic reflection and discourse.

The possible ideal of a convergence of the role-categories. At the very beginning of this *Primer*, I wrote about the critically-heuristic notion of social planning and noted that in its ideal, the two roles of citizens and planners converge; that citizens become (competent!) citizen-planners. In the meantime other conceptual roles have emerged in the framework of Critical Heuristics: the 'client', the 'decision-maker', the 'expert', the 'witness',

¹² On the importance of a functioning public sphere for the emancipatory potential of Critical Heuristics, and Critical Heuristics' potential contribution to a such a sphere, see Ulrich (1996a and particularly 1996b).

¹³ The idea is to build into plans (or the systems to be designed) a self-reflective capacity with respect to purposes, i.e., for 'internalising' rather than externalising ethical issues such as social and economic costs, health hazards, ecological risks or spiritual and aesthetic encroachments; see Ulrich, 1983, pp. 334-342.

the 'guarantor'. You have perhaps observed that in the ideal these roles very often, though not necessarily always, become one. They will still be distinct roles, but they will be played (in the ideal) by the same people – the citizen-planners. If you did observe this possibility of interpreting and using the critically-heuristic categories for critical purposes, then you are a good way towards getting the feeling for Critical Heuristics. But feel free to understand the framework differently, and be sure that the suggested ideal does not become an unconsidered ideological component of the use you make of the framework. This ideal constitutes by no means a necessary value basis for applying Critical Heuristics, nor is it built into its conceptual framework; it is just one more *possible* critical standard that can drive the process of unfolding.

4.6. The 'Polemical Employment of Boundary Judgements'

A critical handling of boundary judgements – including in respect to ethical issues – must not remain dependent on the goodwill of those involved in a planning and decision-making process alone. Our checklist of boundary questions *enables* those who wish to enter into a self-reflective process of understanding boundary judgements, but it may not *compel* them to do so. Hence it is important that we give those who may be affected by a plan but have no say in it, a means *to challenge boundary judgements that are taken for granted*. This is the purpose of the 'polemical employment of boundary judgements'.

Basically, when it comes to boundary judgements, those who are involved and may have all the advantages of knowledge, access to information and expertise, power etc. on their side, are no less situated as lay people than are ordinary people. That is to say, whoever claims the rationality of a plan without laying open that, and how, his claims depend on boundary judgements, can be shown to argue on slippery, dogmatic grounds. Ordinary

people who understand this, need no special expert knowledge in order to challenge such a claim. They can

- (a) uncover boundary judgements on which depends the contested position;
- (b) advance with equal right and with open subjectivity their own boundary judgements, though only for the critical purpose of making apparent that there are options; and
- (c) be confident that no expert will be able to point out politely that perhaps they do not know enough and are not competent participants!

The last point is particularly important. The 'polemical' employment of boundary judgements, because it is a form of perfectly rational argumentation, is apt to give ordinary people *a new sense of competence*; it ensures to them a '*symmetry of critical competence*' (Ulrich, 1993, p. 604f). This is a significant improvement on everyday situations of discourse which as a rule are characterised by an asymmetry of knowledge, skills, power etc. For a more complete introduction, see Ulrich (1983, Ch. 5, Section 3; 1987, p. 281f; 1993, pp. 599-605; 1996b, Section 2).

4.7. Tabulating Critically-Heuristic Deliberations

One last hint. You may find it difficult to remember the twelve critically-heuristic questions in their two versions (= a total of 24 questions); you might also find it less than convenient to work with photocopies of the eight pages on which I have outlined the questions. A more convenient way to remind yourself of the questions and how they are arranged in four groups is by means of a simple *table of critically-heuristic categories* as shown in **Figure 2**. Once you have familiarised yourself with the questions and used them a few times for evaluating some plans or current issues of interest to you, you will in this way not only acquire a feeling for their critical significance but also remember them easily.

Boundary categories Boundary issues / Sources of intentionality

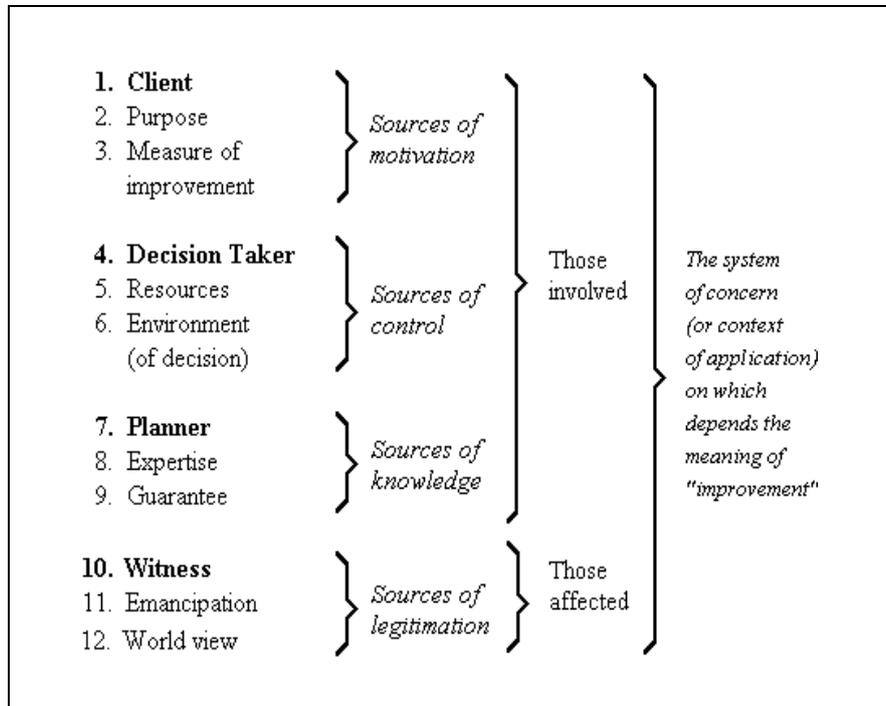


Fig. 2. Table of critically-heuristic categories. The first category of each group refers to a *social role*, the second to role-specific *concerns*, and the third to the *key problem* in dealing with the clash of different concerns that is characteristic of social reality. For each question, boundary questions are to be formed both in the 'ought' and in the 'is' mode.

Source: W. Ulrich, *Critical Heuristics of Social Planning*. Chichester and New York: John Wiley, 1994, p. 258 (orig. Haupt, Bern, Switzerland, 1983, p. 258).¹⁴

Note: The 'planner category may be understood context-specifically, for example, as 'action researcher', 'consultant', 'expert', 'systems designer', and so on, or quite generally as 'professional'.

You might also find it convenient to 'record' a process of critically-heuristic reflection or debate in a format that provides overview. Flood and Jackson (1991c, p.298f) and Flood (1993, p. 184) have suggested formats for this; the one I suggest here is a slightly modified version of Flood's (**Figure 3**).

¹⁴ This figure should also have been included in Ulrich (1993, p. 595, Table I) but was incompletely reproduced there by the publisher. In case you have consulted that source or intend to do so, you might wish to complete the figure there by hand, according to the original provided here.

		Social roles	Role-specific concerns	Key problems
Sources of motivation	'is'	Client	Purpose	M. o. improvement
	'ought'			
	critique 'is' against 'ought'			
Sources of control	'is'	Decision-maker	Resources	Environment
	'ought'			
	critique 'is' against 'ought'			
Sources of knowledge	'is'	Planner	Expertise	Guarantee
	'ought'			
	critique 'is' against 'ought'			
Sources of legitimation	'is'	Witness	Emancipation	World view
	'ought'			
	critique 'is' against 'ought'			

Fig. 3. A recording table for critically-heuristic reflection and dialogue

5. ACTION RESEARCH AS CRITICAL SYSTEMS PRACTICE: TOWARD A KNOWLEDGE DEMOCRACY

I am well aware that there are many different strands of 'Action Research',¹⁵ and yet I think that Critical Heuristics can be of use to all of them. The core idea of systematic boundary critique addresses an issue that is fundamental to any strategy for securing improvement: What does it mean to be 'rational', and *what ought to count as 'knowledge'*, in dealing with practical – rather than merely theoretical – questions? This is a problem which is addressed theoretically (sic!) by a sophisticated part of the philosophical literature called 'practical philosophy'. Practical philosophy is that branch of philosophy which deals with the so-called *problem of practical reason*, the problem of how we can rationally identify and justify the normative content of our actions. In other words, it asks, How can we decide practical questions 'with reason' rather than with brute force?

5.1. Critical Systems Practice

Despite its theoretical sophistication, or perhaps because of it, practical philosophy has not been able to solve the problem, much less to provide an adequate philosophical basis for socially rational planning. This is why, after a careful study of practical philosophy and through a reconstruction of some of its major achievements, I set out, in

¹⁵ Apart from the 'classical' North American model of Action Research which goes back to Kurt Lewin (1946, 1951) and appears to be closer to a mere research strategy than to a participatory strategy for social change, I associate 'Action Research' mainly with contemporary participatory research approaches toward social change as described, for example, in Elden and Chisholm's (1993) introduction to a special issue of *Human Relations* on Action Research and in Peter Reason's (1994) overview article in the *Handbook of Qualitative Research*. Among these approaches are 'Participatory Action Research' (Hall, 1981; Fernandes and Tandon, 1981; Hall, Gillette, and Tandon, 1982; Fals-Borda, 1987, 1996; Fals-Borda and Rahman, 1991; Whyte, 1991), 'Co-operative Inquiry' (Heron, 1971, 1981a, b, 1989; Reason and Rowan, 1981; Reason and Heron, 1986; Reason, 1988) and 'Action Science and Action Inquiry' (Argyris, Putnam, and Smith, 1985; Schön, 1983; Torbert, 1976, 1991).

Critical Heuristics of Social Planning (Ulrich, 1983), to develop an approach that renounces the quest for a theoretical solution to the problem of practical reason in favour of *at least a critical solution* in practice. I am convinced that the problem of practical reason is a key issue of our time and that without a practicable critical approach, there is little prospect of dealing successfully with the many pressing problems of our era, from fighting poverty, injustice, and oppression to ensuring an ecologically sustainable world economy. And since I am also convinced that the systems idea, properly understood as a critical idea of reason, can help us meet this challenge, I use the term '*critical systems practice*' to refer to a social practice that would live up to the challenge. Critical Heuristics is my working hypothesis to this end; its proposal is *to promote critical systems practice through systematic boundary critique*. My hope is that systematic boundary critique might ultimately become a natural part of popular knowledge and wisdom.

Action Research, too, will hardly escape the implications of the unsolved problem of practical reason. (It is difficult to see how it could avoid this philosophically inevitable problem if it aims to be more than mere political activism.) Practical reason in the sense of practical philosophy ultimately means moral justice characterised by the voluntary and authentic consent of all those concerned. If Action Research is to bring more practical reason into this unjust and unreasonable world of ours, it seems advisable for action researchers to view issues such as 'adult education', 'awareness-raising', 'empowerment', 'liberation from oppression', 'development', 'democratisation' etc. not only in terms of participatory *research* and socio-political *action* but also in terms of '*critical systems practice*', i.e., *critique*. Critical Heuristics is my personal proposition for getting closer to such critically informed practice; it is meant to help ordinary people as well as action researchers and other well-trained professionals in this quest.

5.2. Is Critical Systems Heuristics Too 'Intellectual'?

A major question poses itself at this point. Participatory Action Research is frequently used in circumstances where people are hardly prepared to use a tool such as Critical Heuristics, as they may lack not only the skills but also the freedom and the resources to practise critically-heuristic deliberation. Critical Heuristics – at least until it has become a natural part of popular wisdom – may appear to be too intellectual, too driven by an ideal of critical appreciation and dialogue rather than by the need to liberate people first of all from oppressive material conditions. In addition, Critical Heuristics might also appear to some action researchers as too much oriented toward a liberal, rather than a radical, ideological stance.

These are all necessary considerations. It is certainly true, for instance, that Critical Heuristics' language and concerns are 'liberal' rather than 'radical' in character. However, its basic concept of boundary critique is ideologically neutral in not presupposing any specific ideological stance for its useful application. This is not to say that the application of Critical Heuristics is value neutral (see on this the discussion in Ulrich, 1996b). As to its 'intellectual' or 'cognitive' orientation, it is equally clear that Critical Heuristics is not Critical Pedagogy (Freire, 1970 and 1973). It aims at quite a different kind of literacy and consciousness-raising. It challenges the political illiteracy and passivity of so many citizens in Western democracies who seem to have withdrawn from exerting any significant influence on the action or inaction of those who decide, and to whom democracy is something that happens on TV rather than in their own life practice. The point is, simply, that Critical Heuristics pursues different goals and that these goals give a different meaning to key issues such as 'awareness-raising', 'empowerment' and 'emancipation'.

What distinguishes Critical Heuristics from Action Research is not so much that the one would *per se* be more emancipatory in its orientation than the other, I think, but rather that the two emancipatory approaches *address different societal contexts* and hence also pursue *different avenues to empowerment*.

Critical Heuristics was developed as a discursive approach to non-elitist, democratic processes of planning and decision-making in Western liberal societies. It aims to support not only planners and decision-makers in finding solutions to problems but also to support *citizens* in emancipating themselves from those solutions. In its own terms, its 'guarantors' of critique are not so much the sophistication and goodwill of those who have the say but rather the ordinary people who have to live the 'solutions' in question. This is why Critical Heuristics aims to be a tool in the hands of people who do not usually have the say. It does so out of philosophical necessity (because there is no other way to secure a critical solution to the problem of practical reason), but also in view of the societal context that it is meant to address:

In our presumably 'advanced' Western societies, it becomes more and more important that the process of modernisation and rationalisation can be controlled democratically by those whose lives it affects – the citizens. We are all well aware of the millions of unemployed and poor, of the high rates of criminality and suicide, of the continuing environmental degradation and destruction of our landscapes, of the rapid loss of biodiversity and of all the other major problems of Western societies. These problems are not simply given; they are the products of our policies, that is, of the societal definition of what counts as 'knowledge' and as 'rational'. The *societal production and distribution of knowledge* is indeed a key issue, for the definition of 'knowledge' goes hand in hand with the control of power and with the definition of 'rational' policies.

5.3. Breaking the Monopoly – Changing the Modes of Knowledge Production

In our present situation in the Western democracies, it is still a number of key powers such as parliamentary democracy, bureaucracy, science, and 'private' corporations that hold the monopoly of 'knowledge'. These institutions historically have driven the process of modernisation and continue to do so; they are the *institutionalised guardians of rationality*, though often enough with poor results. As the repercussions of their leadership become increasingly counter-productive and threaten the prospects of global survival, the centralised modes of production and use of knowledge will have to be transformed into more decentralised modes in which other social actors have a competent part to play. This is a major challenge which the contemporary industrial societies will have to face. There are already signs that this *necessary transformation of the modes of knowledge production* is going on. It is happening, for example, in politics, where increasing political abstinence goes together with an increasingly differentiated and decentralised political culture (see Ulrich, 1996a), and in the scientific production of knowledge, whose boundaries are becoming more and more blurred. To quote just one recent study of the changing nature of science and research in contemporary Western societies,

The transformation of knowledge production ... is one of the central processes characterising the societies of the advanced industrial world. Knowledge production is less and less a self-contained activity. It is neither the science of the universities nor the technology of industry, to use an older classification for illustrative purposes. Knowledge production, not only in its theories and models but also in its methods and techniques, has spread from academic into all those institutions that seek social legitimation through recognisable competence and beyond. Science is less the preserve of a special type of institution, from which it is expected to spill over or spin-off to the benefit of other sectors. Knowledge production is increasingly a socially distributed process. (Gibbons et al., 1995, p. 156)

This account may appear overly optimistic to many. My aim here is not, however, to predict that such a transformation is already happening; nor is my focus on new institutional forms of academic knowledge production, resulting from cooperation across disciplinary and organisational boundaries and from the increasing importance of so-called hybrid fora which provide the interplay of experts and non-experts. My point is, rather, that responsible *citizens* have to make this process happen, by challenging the institutionalised modes of knowledge definition and, linked to it, the dominating rationalities behind our policies. But such a challenge requires not only civil courage – *dare to know (sapere audi!* was Kant's call for enlightenment) – but also, and more fundamentally, competencies, among them the kind of critical competence that Critical Heuristics can give.

The concept of *boundary critique* might provide one effective means to promote the required ability and to help people argue their concerns even against dominating rationalities, whether publicly within the democratic arena or in the many other discourses in which they are involved, even in oppressive or totalitarian societies (see on this Ulrich, 1996b). I say it is effective because it is philosophically sound and to the point – it goes to the heart of the matter, by taking up the normative core of all claims to 'knowledge' and to 'rationality'. What is more, it is generic, it applies to all kinds of practical issues. And since it requires no special expertise beyond the normal practical insight inherent in people affected or concerned, it is potentially accessible to many people indeed – provided, of course, that the concept is explained appropriately and that they are trained in the surfacing of boundary judgements as well as their polemical employment.

This, admittedly, is an enormous challenge that has yet to be met. Critical Heuristics is still a new-born idea. It needs to be developed and to be conveyed to many people and then, based on their experiences, it will probably need to be refined and transposed into specialised educational means both for adults and children, for working with people in

different societies and circumstances, etc. Action Research might provide one important setting for undertaking this work – not as a replacement, but rather as a complement to its current strategies for 'working with people'.

5.4. Toward Critical Action Research

Before I sum up the implications of this outlook to Action Research as critical systems practice, I would like to make a last suggestion of quite a different nature. It concerns the *meta-level* of methodological control and *self-reflexivity* of action research. In reading a good amount of Action Research literature, I have sensed a certain vagueness and lack of rigor in the epistemological and methodological criteria that action researchers follow and apply so as to evaluate Action Research processes and outcomes. As Reason (1993, p. 1256; 1994, p. 328) observes, participatory action researchers do not always seem to match a concern for empowerment with a concern for epistemology and methodology; "in reading the literature on participatory action research it is easier to discover the ideology of the approach than a detailed description of what actually took place."

A similar feeling took hold of me when I read the case studies reported in the earlier-mentioned Special Issue of *Human Relations*.¹⁶ They fail to give a clear account of *what action researchers do in methodological terms* and of *what actually happens at the level of interactions (discourses, negotiations etc.)* in terms of the interdependent *empirical and normative contents* that shape the conceptions of social reality and of 'improvement' that ultimately get adopted. The process of 'meaning construction' proposed by Levin (1994,

¹⁶ Compare the previous footnote.

p. 28ff) remained largely unclear to me in these case studies, both methodologically and substantially.

Mangham (1993) summarises what I felt even before reading his or Reason's comments:

There is a curious aridity about these papers.... There is little or no sense of issues emerging, of issues being defined and re-defined, of false starts and disappointments, of flesh and blood involvement. What action researchers need to do is to invent a way for talking about the *what*. A way which captures the essence of the activity – explorations around and construction of a new social reality. (Mangham 1993, p. 1247)

Indeed! This repeated observation leads me to the following suggestion: Could the critically-heuristic concept of boundary critique not perhaps be helpful at the meta-level of *describing Action Research experiences* in a more substantial and helpful way than is usual? Perhaps recording the process of the gradual surfacing of boundary judgements and of the subsequent tracing and debating of their implications is one part of the 'invention' that Mangham is seeking.¹⁷ Perhaps, too, the twelve critically-heuristic categories provide a sufficiently operational framework for giving it a try?

Finally, the suggested meta-level use of Critical Heuristics might also help to fill another vacuum that I perceive in the Action Research literature, I mean a more clear-cut

¹⁷ Note that boundary judgements always occur, and play a crucial role, in the collective shaping of what the social reality in question is and how it ought to be improved, regardless of whether they are formally 'introduced' as a concept by facilitators. They are not an artefact of methodology but a leverage point for awareness-raising and critique, a leverage point that need not be 'invented' but is always already there! (What needs to be 'invented' is only the conceptual tool for surfacing and questioning them.) My suggestion is therefore quite independent of the participants' conscious employment of boundary judgements, although an explicit process of surfacing and unfolding them will of course facilitate the recording task at the meta-level.

and systematic attempt at *ensuring the 'critical' nature of Action Research*. It might provide an operational way of measuring the facilitation's achievement in raising critical awareness. As matters stand at present, it remains largely unclear, to judge from published case studies, whether and to what extent Action Research is a form of 'critical science' or at least of applied critique – a lack of clarity that seems serious to me in view of the strong emancipatory claims made by the discipline. *Monitoring critique* might be a useful idea both at the level of what happens among the participants – where does critical awareness emerge and what part does it play in the process – and at the meta-level of evaluating the researchers' or facilitators' approach.

5.5. Summary

Why might Critical Heuristics be of interest to Action Research? The two frameworks were developed with different societal contexts in mind but nonetheless can be understood to address a common core issue, namely, the *societal definition of what counts as 'knowledge'*. In regard to this core issue, both approaches pursue an emancipatory purpose. As compared to Action Research, Critical Heuristics' emancipatory orientation may be perceived to be more 'liberal' rather than 'radical' in spirit; it focuses primarily on cognitive rather than material emancipation, on 'critique' rather than 'liberation'. Having a practical purpose, however, this understanding of the emancipatory interest does not restrict itself to (nor aim in the first place at) a merely theoretical goal of establishing a 'critical science' in the sense of Habermas (1994). In distinction to Critical Theory, Critical Heuristics includes the ideal of empowering people *practically*. To this end, it proposes an effective and generic 'translation' of its emancipatory commitment into methodological tools of self-reflection and debate even under circumstances of asymmetric distribution of knowledge, skills, and power. I have argued that under the societal circumstances of the

advanced industrial world, this is a key avenue to societal change. It is because the issue of promoting more equal modes of knowledge production¹⁸ goes to the heart of virtually *any* emancipatory quest that this issue is also of major concern to action researchers. The underlying utopia is largely parallel, though it has to be adapted in each case to the specific societal circumstances: it is to redefine the societal definition of what counts as sound knowledge, and hence as rational policy, with a view '*toward a knowledge democracy*' (Gaventa, 1991, p. 130).

6. AN INVITATION

I have tried to introduce you to my Critical Systems Heuristics. This *Primer* is a pilot attempt, in a double sense. First, although I do have some ten years of experience in introducing Critical Heuristics to students of social planning and evaluation research as well as to professional planners and ecologists, it is the first time that I address myself in this way to a specific profession and tradition of thought outside my own field of professional experience. Although I have dealt a lot with planning philosophy, evaluation research, policy analysis and the like, fields that I see as being closely related to Action Research, I have not dealt specifically with Action Research nor participated in its discourse. This is, of course, a handicap in writing for action researchers. I hope, nevertheless, that some of the issues I have addressed are of interest to the current discourse in your field. Even if so, it remains to be noted that this *Primer* is a draft. It was written as a contribution to a first

¹⁸ In the terms of Critical Heuristics, the issue is to promote a 'symmetry of critical competence' (Ulrich, 1993, p. 604f); in the terms of Action Research it is 'breaking the monopoly' (Hall, 1978; Hall, Gillette and Tandon, 1982); Fals-Borda and Rahmann, 1991)

encounter of action researchers and critical systems thinkers¹⁹ and its purpose is to provoke some reactions. I would be grateful to receive reactions from conference participants as well as from other readers. What do you think of this attempt and in what way might I improve it?

Second, I hope of course that some of the readers of this draft will also be interested in applying Critical Heuristics to their work as action researchers. I would be very interested indeed to receive information on their views and perhaps experiences with Critical Heuristics. How do you see the potential usefulness of Critical Heuristics for Action Research in different contexts? How do you see the chances for 'transplanting' it, say, to a Latin-American context? What strategies and means for enabling people in its use, including didactic means and organisational settings, would you propose?

It is your turn now. I hand this *Primer to CSH* over to you. Any feedback will be most welcome. Please email me at wulrich@gmx.ch or write to the following address:

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¹⁹ 'Forum One: Action Research and Critical Systems Thinking', organised by the Centre for Systems Studies, University of Hull, and held at Briggate Lodge Inn, Broughton, South Humberside, UK, 29 April - 1 May 1996.

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