Innovating social support. Examples and designs

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Abstract

Organisations differ in many ways. Two extremes are especially interesting. Some organisations are tyrannical. Their members are committed to strict rules, activities outside the organisation are not considered of relevance to the organisation. Others are freedom loving. Little effort is needed to keep to the rules. Members feel supported. Their locus of control is close, they feel appreciated and honoured. They are committed to contribute to and maintain the organisation.

Neither kind of organisation seems ineffective. Both seem prone to dangers – to fragment in the case of the second type of organisation, to become too strict and imprisoning in the case of the first. In Western society it is impossible to doubt a preference for the second type. Interestingly, this preference still proves difficult to implement, especially in the area of social helping. There still is a tendency to imprison, and to tyrannise the helpee by the values and norms of the helper.

This defines the problem discussed in this paper: what may help organisations similar to the first type to change and become similar to the second? It is proposed that the change can be effected by changing the communication structure. It should allow members to address each other to provide precisely what is needed to act as members of a stable collective or organisation.

In the paper examples are presented of how to design the research needed to identify proper communication structure. A general pattern is identified. Proper structures are those that allow members to add to their existing competences as members of stable collectives. Stability, however, is a relative notion. It refers to self-organising new competences as a next step – after having achieved previous competences. The search for such stability implements a long needed research program.

Introduction

A few years ago a Dutch social worker reported an interesting experience. A client requested regular appointments to help avoid being battered by her husband. A series of helping sessions was offered. This she refused, as she claimed only to need the *appearance* of an appointment to keep her husband in line. Only later did the social worker accept this procedure, which, at first, she experienced as professional failure.

This anecdote illustrates what appears to be a general dilemma. On the one hand there is client behaviour that fits expectations. Social workers usually claim to be in favour of clients solving their own problems, precisely as the client in the anecdote intended. On the other hand there is client behaviour that

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does not fit expectations. Social workers do not appear to be prepared to consider themselves a collective resource.

This dilemma obviously derives from a stereotype, that is from the way social workers see themselves – as individuals whose competence rests on personal initiative, experience and the results of research. The lady requesting appointments had a different view. She emphasised the role of the collective of professionals. To her the profession itself was a resource, the competence of which to her overshadowed that of individual workers.

It is seductive to reject the latter view out of hand – but also to take it seriously. Social workers may be trapped in their own definitions, both practically and research-wise. If so the anecdote suggests an interesting way to get out of the traps and improve social help. Clients want to contribute themselves. Helping thus constitutes a wider problem than just improving the skills of the individual social worker - be it by research or not.

In this paper I aim to explore this wider problem. It is important – as may be gleaned from the fact that similar anecdotes are found in many areas of social life. Whom should the traveller criticise, the conductor or the rail company? It also appears under-explored. It is possible to think of other models for helping than those in which the basis of the helper's competence is restricted to helpers' experience.

Elements of the problem

Problematisation usually implies picking a smaller problem and stretching it so it starts to explain wider problems. Interestingly, in this process the choice of the smaller problem does not appear to matter – as long as its definition derives from outside the area where the problem is to be diagnosed. For example, it may be someone claiming that a watch is not working, and hence wishing to help and 'cure' the defective parts 'for ever after'.

As a first step in stretching this (smaller) problem one may assume that it is defined by the watch itself. Or more practically, by the human being who is to be helped and who may wish to define his or her own defect. The helpee may have a wish other than to 'work' again, for example to work differently or to function better. The only help needed in this case is to ensure the 'for ever after', that is the stability[2] of what is achieved.

This case appears similar to that of the lady asking for appointments. She did not want her problem to be defined and solved by the social worker. She clearly considered her approach (too) temporary. What the lady lacked was support to achieve stability, something the social worker found difficult to give. Formal appointments with her organisation would be sufficient, apparently, to provide the necessary anchor.

It seems natural to stretch the problem of helping even further, to where the latter aim, anchoring achievement, is the helpee's as well. The term we will use for this combination is *self-organisation*. It refers to the helpee's realisation of two aims in tandem: solving a special problem or achieving a special effect as well as maintaining that solution or that effect. The help required now is to 'stabilise stabilisation'.

The next step seems obvious again – to further unfold and problematise the wider problem by stretching the notion of helping to 'stabilising stabilisation of stabilisation', etc. Two possibilities may be envisaged. It may be that eventually

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[2]   Being stable is not the same as being in equilibrium: it requires an effort, and hence is more like being (far) from equilibrium.

a final stretching is identified, e.g. helping to stabilise against *any* disturbance (Carse, 1987). The other alternative refers to what one expects in practice – that everybody needs help at *some* level[3].

In the second case the notion of competence appears useful. It is defined as confining change, for example increases in skill, by bestowing a qualification – or a set of constraints which a person is able to stabilise. The client requesting a regular appointment thus can be said to have identified the *last* level where she didn't need help to stabilise the qualification that would make her competent to avoid battering, or the *first* where she did.

Problematising the notion of help confirms the need for something beyond the traditional approach, that is diagnosing the problem of the helpee and searching for its solution. What is needed goes far beyond knowing what the helper may do irrespective of the helpee. It reverses the roles of the helper and the helpee. To get help the latter must be able to challenge and bring the helper to help *only* at the level requested.

The change from paying attention mainly to what the helper may do, as is still common among professionals, to paying attention to what the helpee may choose is quite fundamental. It raises two questions. The first is what it implies for the build-up of competence, and for the role of research. The second is what it looks like in familiar terms, for example of developments in practical areas of helping. This will be discussed now.

One major and well-known area is helping youngsters to grow up without too much violence and avoiding criminalisation. It has become clear that being strict or applying zero tolerance does not help much, or negatively. This is easily explained. It is not sufficient to tell youngsters what to do, that is 'replace' what they want to do by what their parents and teachers want them to do 'for ever after' (Van der Doef, 1992).

What adolescents appear to aim for is to choose their own achievements, as well as their own ways of stabilising these. Most social actors appear well aware of this, but few seem willing to provide the necessary space. This is especially the case where it concerns sexual behaviour. Maintaining 'proper' behaviour often is thought to require forceful control and even 'policing'. This approach is doomed to lead to resistance.

A symptom of such resistance is teenage pregnancy, which is high in countries like Peru, but also high in the United Kingdom[4]. Becoming pregnant may be an accident, but it also appears due to a desire to step out of the child's position and create a family oneself – as a way to stabilise an adult role. This interpretation is supported by a project in Peru, where this kind of stabilisation was replaced by that via peer groups (Ramella, 2001).

Adolescents were invited to participate in 'grupos de adolescentes', to create their own culture and earn their own money (for example by organising parties). This was helped by providing each group with a camera and asking them to tell about their community and about their interaction as boys and girls. Some of their stories told how the groups helped to provide stability to the youngsters, in case their families did not.

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[3] A person who is able to act stabilised against all obstacles obviously appears 'strong', or a strong actor. Similarly, those who achieve a new level of stability, beyond the last one, become 'stronger' actors.

[4] Teenage pregnancy are much lower in countries like the Netherlands (in the latter case 10 times). This seems to be due to a strategy of providing early education (from the age of 4 onward), and of providing alternative projects (like building 17th century ships).

One of the results was that the frequency of teenage pregnancy in the groups dropped considerably compared to elsewhere. Possibly even more important was that the groups became autonomous agents. They were listened to as able to provide help to the community. Interestingly, members of the groups, when growing older, still appeared more independent, more confident of their own competence than others of their age.

There are other areas where help frequently has been (and often is) modelled on replacing or repairing 'parts' and hence on imposing what is considered an achievement. The area of social work is particularly well known in this respect. One aspect that received much attention is people becoming dependent on help and hence no longer self-organising. This has been called the 'sucking' power of the helping society (De Gier, 2001; p. 27).

This process is characterised by increasing numbers of people seeking help but also of social helpers – far beyond what one would expect based on experience. In the Netherlands this has led to abrupt changes in social policy[5], usually argued to be due to economic developments, in particular to a sagging economy and rising costs. It was expected that costs would decrease when people would be called upon to self-organise (De Gier, 2001, p. 26).

Another interpretation is a loss of tradition. In former times a strong sense of community could be assumed, with clear norms and values, without much need for 'policing'. When this sense diminished, social workers and others were asked to provide new concepts. A series of concepts resulted justifying reduced social support, for example social integration, social cohesion, social capital, civil society, etc. (De Gier, 2001, p. 26).

Sen (1999; see also De Gier, o.c., p. 37) interprets social ills, such as poverty, as due to something like our 'watch problem'. People should become self-organising agents – and develop their 'capabilities', or in our terminology, their competences. The stabilising anchors are education, health care and legal and social security. People need to care for themselves as well as for their environments (see also Bakker, 1987).

An increased emphasis on self-organisation can also be found in areas such as management. The prime example is human resource management (HRM). It opposes the Taylorian approach which is strongly reminiscent of our 'watch problem' and on replacing 'defective' parts. HRM emphasises mutual respect – and insists on self-organisation as a way to contribute to the viability of organisations (Van Gent and Van der Zee, 2001; Chia, 1996).

Researching self-organisation

There appear to be good reasons to re-interpret the notion of helping, therefore. The anecdote gave a first indication of what this might look like. Next it proved possible to problematise the traditional notion and to develop one that even seems its reverse. Developments in various social areas demonstrated a tendency in the same direction. What is needed now are research designs to implement this reversed notion.

To develop such designs, the main step is distinguishing between what needs to be reversed, and what does not. Following the re-interpretation, for example, one should search for what will help *any* helpee, irrespective of the

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[5]   This includes strongly decreasing support for a discipline called andragology (which included the study of social work, of social helping, of the effects of the built environment, etc.) that in its heyday attracted some 400 new students each year.

helper. This clearly is very similar to the traditional requirement of professional knowledge, that it be of use to *any* helper, irrespective of the helpee's problem. Besides such similarities, there are differences.

The major instance is that helpees will push help to just beyond the point where they don't need it. One may think here of a complaint most of us had when parents tried to help with our homework. They tended to explain too much. Helpees also must challenge helpers not to help too much – unlike in the traditional case which required helpers to 'know', or observe and diagnose without interference of helpees.

This difference as well as the similarity may be combined in a model from which the desired research designs are generated. First, one may note that self-organisation appears a special form of the traditional approach. The latter also adds something, or in traditional terms, adds something that stabilises by exhausting all observational variety. Here the emphasis is on discovering what exhausts 'for ever after'.

Second, some form of communication is needed to challenge helpers at the right level (just beyond the point where no help is needed). Such communication should have a precise structure, therefore: it should hide what is not needed and make explicit what is needed. This obviously will require that there is feedback between helpers and helpees, meaning that the structure links both with sufficient speed.

The model from which the designs are to be derived should include, therefore, identification of those structures that allow helpers and helpees to constitute a collective that, as a whole, exhausts all observational variety. This collective should be stable against any (observable) activities that helpers (or others) may impose on helpees[6]. The task is to discover the structures that enable such collectives to develop.

It may be thought that this task is very difficult or even impossible. This obviously does not mean that it has not been attempted. An example in the area of management is the 'methodology' proposed by Checkland and Scholes (1990). It aims to help (all or some) members of an organisation to communicate and become a collective that is competent to identify and solve (the organisation's) problems.

This methodology aims to make the collective stable by eliciting and including as much observational variety as possible – initially when members get together as well as later when solutions to problems are checked against existing experience. This approach is claimed to, indeed, address members of the organisation just beyond where they (still) are able to 'manage', and thereby turn them into helpers.

It also shows some drawbacks, which seem to make it only partially count as a research design. It does not explicitly provide to create an exhaustive collective. For example, its checks for stability do not include observational variety from outside the organisation. This makes it difficult to stabilise 'for ever after'[7]. Also, it does not identify whether structures other than the one used, contribute to addressing helpers on the desired level.

Designs in social helping

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[6]   Various lines of research have developed that nowadays attempt to identify what helps collectives develop and maintain themselves (Briggs and Peat, 1985; Waldrop, 1992; Lewin, 1992; Casti, 1995; Penrose, 1995).

[7]   Convergence to such a result is not guaranteed by repetition of the methodology, although this is claimed.

Although 'helping methodologies' are widely available in management[8], this is less so in the area of social work, adolescent and adult education and the design of the built environment to help people achieve a high(er) quality of life. This is not to say that no such methodologies or research designs have been developed (e.g. Denzin, 1997; Erlandson et al., 1993; Guba, 1990), only that none is dominant.

There have been many attempts to design and test suitable designs. An example is a study by Nieborg (2000). She was concerned about the fact that the division of labour in Dutch households has not changed much, even though the number of women participating in the Dutch labour market did rise spectacularly over the past two decades. Women still are supposed to provide most of the childcare, for example.

This clearly is not due to a lack of effort, or even awareness. For some time the Dutch government created crèches and other forms of support at the rate of more than a quarter of a billion US dollars a year – without much effect on the division of labour. This suggests that the model of helping was inadequate. Just like social work in the 1970s, it sucked up extensive resources, producing little positive, and often quite negative effects.

The author decided to explore a different model. She interviewed members of families who did change their division of labour as well as of those who didn't, and also marriage counsellors, government ministers and employers. This material was analysed as to the structures families used to function as stable collectives, or as *strong actors*. It was shown that *not* changing the division of labour did help families to be 'strong'.

Evidence was collected that when families tried to change the division of labour, they became 'weak(er)' actors compared to actors in business and government. Eventually the author was able to formulate statements of advice that members of families could use to 'think about' their roles. This helped them manage and better resist stereotypes such as 'managers have to socialise after hours at cocktail parties'.

Vahl (1994) was invited to help decide whether to continue experimental service teams. Conventional evaluations would have provided exhaustive descriptions of what was achieved, which then would be judged in terms of the original objectives. However, this procedure usually leaves undefined what precisely is to be described, and hence allows external influences on the selection, e.g. the commissioner's.

To avoid this possibility, the author decided to first help members to self-organise the teams as collectives so they could stabilise against being influenced by external requirements. This would allow the teams to be judged without such influence. She then selected a communication structure that might have this effect, a hypothesis she eventually could test successfully by developing the teams.

The author used a structure derived from the work of Axelrod (1984) and Howard (1971). It suggests communication to consist of sentences of the form 'If observation A (of the action of a previous actor), (let the next actor) do action X'. Members of the team identified whether (and which) sentences in their daily communication showed this form. This led to full descriptions of existing interactions among the team members.

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[8]   There are many other 'methodologies' with similar aims (e.g. Stafford Beer, 1985; Kompier and Marcelissen, 1990).

These interactions obviously had not been sufficient for stabilisation (otherwise conventional designs could have been applied). The communication structure needed to be improved, therefore. It was accepted that team members would do this themselves. They were taught to *update* their *sentences* daily, e.g. to change X when A would change (such as new kinds of clients being admitted), or A when X would change, or both.

This updating procedure proved sufficient to help the teams self-organise and become coherent, resilient and strong as actors. Feelings of enthusiasm returned, costs were reduced and the quality of the service to clients increased and eventually proved maximised given the resources available. The decision whether to continue could be based on (maximum) possible results, rather than on results as achieved.

Van Geen (1989) wished to improve on the life of residents in homes for the elderly. She decided to identify a communication structure by using available forms of statistical analyses. Statements from residents about what it means to live in such homes could be reduced to a set of seven concepts. They deal with friendship and freedom, food, organisation, comfort, belongingness and staff behaviour.

The structure consisting of these concepts was made available to residents' committees. It thereby became part of a daily updating procedure. Residents proved better able to address helpers so their control over their own lives increased. This led to the introduction of the same structure in another 150 homes. Evaluations indicate that residents started to take new initiatives. Their health improved[9].

Similar effects were noted by Van Haaster (1991) who explored a structure to strengthen individual identity against staff control in a Day Activity Centre for ex-psychiatric patients. Staff learnt not to behave as controllers. Eventually most forms of violent behaviour disappeared. His procedure again consisted of helping patients to identify and daily update a structure that helped to maintain (life in) the Centre.

The structures that appear useful in helping apparently thus vary quite a bit. The same holds for the daily updating as Van den Berge et al (1980) show. They wanted to support homosexual men running the risk of being beaten ('gay bashing'). What the authors want to avoid was that the latter would be unable to visit certain places or would have to learn, for example, karate. Such restrictions imply a (too) high social investment.

The authors argued that being beaten requires a 'qualification' by the attackers as 'victim'. This induces a 'competence' in being bashed – just as helpees become qualified and competent in being 'dependent'. It turned out that there were anecdotes about how to address attackers successfully, to avoid the qualification. The authors collected such stories and improved them on criteria such as 'ease of understanding', 'grippingness', etc.

One of the anecdotes, for example, tells how someone is walking in the park. When he attracts the attention of potential bashers, he starts to flap his arms and yell 'Peeweet, peeweet', as if he is a bird. His assailants walk away in disgust.

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9   Help in the form of providing what stabilises competence beyond existing levels does not leave the individual unchanged. It requires that he or she accepts the constraints involved, and hence implies changes in norms and values. For example, one can not be member of an exhaustive collective if one does not intend to behave honestly, that is on the basis of hidden (and hence non-exhausted) purposes.

The new form of addressing had changed the qualification of 'victim' to 'mad person', or to someone of no interest to gay bashers. This change is cheap. It requires no physical training (but good timing).

A selection of such anecdotes (with an explanation on how to use them) was published and about 1500 copies were sold in Amsterdam. Interviews with some of the buyers indicated that the anecdotes were used as intended. They were not interpreted as (repeatable) solutions to a particular problem or as general strategies. Rather, they introduced a new 'way of thinking', and helped to create new collectives, with new qualifications.

What seems to have contributed most to this result was the power of the anecdotes to *suggest* forms of addressing. A dangerous situation is described, then behaviour that induces a change in the qualification of the subject of the anecdote, then the surprising consequences of that change in terms of how other people start to behave differently. Anecdotes are quite near to the 'moral tales' that most cultures cherish.

After a few years, the anecdotes lost their attractiveness – at a rate similar to the decrease in the overall number of beatings. This presumably was due to other factors, however, for example the legalisation of homosexual households. However, what is important in the context of this paper is the structure that was introduced (anecdotes) and the way people proved able to use it to update their ability to cope with (group) aggression.

Comments

The above examples were intended to clarify three kinds of issues. Firstly, the issue of deciding whether to introduce a pre-selected communication structure, or to design a new one. Secondly, the issue of how to test whether the resulting collective (if any) is sufficiently stable. Thirdly, the issue of spending (and possibly minimising) the effort of daily updating and testing the structure to ensure that the collective is maintained.

Although the examples already diverge substantially on the first two issues from the usual approaches to improving helping, it is especially the third issue that makes the difference. In traditional approaches, once something has proved its mettle, it is treated as requiring no further maintenance. This is not the case for the communication structures that helpees need to address helpers at some proper level.

Behind this difference is the idea of stability. What makes for self-organisation? A practical example may help to answer this question. One may think of a support team for the disabled, or of a shop wishing to sell tea. To improve on them two strategies may be considered. The first is to get knowledge about clients or customers. The second to provide information about how the organisations will serve.

The first strategy assumes that stability is achieved when variation in the needs of all customers or clients can be identified and proved bounded. No attempt of this kind has succeeded, unfortunately, presumably as such needs often change. This is where the second strategy comes in. The am is to design a stable and informative 'shop window'. It allows restricting and bounding variations in the needs of available customers and clients[10].

It usually is taken for granted that no further effort is needed to maintain the bounds on the variation in clients' needs – 'for ever after' – and hence on the

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[10] In other words, although no shop may ever 'know' its customers, it will be able to self-organise itself to serve its customers.

knowledge needed to offer what is attractive. The second strategy requires that the display (and its limitations) be updated frequently, or even continuously – on penalty of becoming less attractive and of losing clients. Changes in needs and tastes must be adapted to.

There is thus a basic difference between the two strategies. In the second strategy helping implies keeping track of the next level where helpees need support and stabilisation. This implies a form of (mutual) communication, and hence some (possibly changing) structure to address helpers. In other words, what is stable now does not have to stay the same: it may change whenever helpees develop.

We may refer to this form of stabilisation as a criterion, the criterion that makes helping in the sense of addressing helpers an instance of research[11]. Without the criterion, there would only be a project, lacking systematic comparison of later achievements with previous ones. The criterion ensures that access to communication structures will be general, or rather freely accessible to all, and in that sense, democratic.

The counterpart to spending effort to maintain stability is that it can be destroyed. As an extreme, one may think of an asteroid wiping out the organisation's clients, or a war destroying the shop. If stability is to be maintained in such situations, it obviously will be at (too) great cost. In the example of the experimental teams (Vahl, 1994), nothing else was intended but to stabilise against the influence of the commissioner.

Another interpretation of stability is that one is prepared to spend effort to deal with changes that threaten stability[12]. The latter obviously may include actions by clients – similar to those of commissioners. In other words, effective communication structures must lead to collectives being selective. Accepting membership implies that members commit themselves to respond as much as they are capable of when addressed.

Conclusion

Starting from an anecdote it was argued in this paper that helping often is interpreted ineffectively as a role only for the helper. He or she is expected to act purposefully by diagnosing 'definitively' what helpees need. The anecdote suggests a change in emphasis. It should be the helpee who addresses the level from where help is provided, using a communication structure that does not impair competences below that level.

As a next step, it was attempted to exemplify research designs that help helpees to use proper structures. This involves identifying what structures allow for the development of collectives that are sufficiently stable to serve as anchors for helpees to self-organise. A number of examples were described to clarify the notion of communication structure as well as of regular updating (and hence testing).

It was argued that an interpretation of helping as helping to self-organise fits in with recent developments, both in society and in the area of helping itself. This makes it even more important to develop research designs to implement this interpretation. The difficulty such designs face is that results depend on an

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[11] Traditionally this criterion does not refer to stability, but rather to timelessness, to placelessness and to being usable by anybody.

[12] It is surmised that the failure of Checkland's 'methodology' as a research design is, especially, that it does not anticipate spending effort in this way. See also Kaufmann (2000).

unusual notion of stability – a dynamic one in that it requires *effort* to anticipate *spending effort* on stabilisation.

References

Axelrod, R. (1984), *The evolution of co-operation.* New York: Basic Books
    Bakker, B. (1987), Leidraden voor zelfhulp. Amsterdam: Ph.D. Thesis
Universiteit van Amsterdam
Beer, S. (1985), *Diagnosing the system for organisations.* Chichester: Wiley
Berge, F. van den, W. Bossewinkel, S. Groeneveld, M. Muis, H. Wildschut, Flikkers en agressie (1980), Amsterdam: Scriptie Universiteit van Amsterdam
Briggs, J.P. and Peat, F.D. (1985*), Looking glass universe. The emerging science of wholeness.* Glasgow: Fontana Paperbacks
Carse, J.P. (1987), *Finite and Infinite Games.* Harmondsworth, Middlesex: Penguin Books Ltd
Casti, J. (1995). *Complexification , Explaining A Paradoxical World Through The Science Of Surprise.* New York: Harper Perennial
Checkland, P. and Scholes, J. (1990), *Soft systems methodology in action.* Chichester: Wiley
Chia, R. (1996), *Organizational analysis as deconstructive praxis.* Berlin: De Gruyter
Denzin, N.K. (1997), *Interpretive ethnography: Ethnographic practices for the 21st century.* London: Sage
    Doef, P. van der, ed. (1992), *Interdisciplinariteit in de jeugdhulpverlening en de adolescentenzorg.* Amersfoort: Acco
Erlandson, D.A., E.L. Harris, B.L. Skipper, S.D. Allen (1993), *Doing naturalistic inquiry. A guide to methods.* London: Sage
Gent, B. van & Zee, H. van der, eds. (2001), *Handboek van human resource development.* Den Haag: Elsevier
Geen, V. van, (1989), *Meer greep op eigen leven.* Amsterdam: Zwets & Zeitlinger
Gier, E. de (2001), *De sociologische interventie. Wetenschap en sociaal beleid.* Amsterdam: Vossiuspers
Guba, E.G. (1990), The alternative paradigm dialogue. In: E.G. Guba (ed.), *The paradigm dialogue.* Newbury Park: Sage, p. 17-30
Haaster, H. van (1991), *Wartaal.* Amsterdam: Thesis Publishers
Howard, N. (1971), *Paradoxes of rationality: theory of metagames and political behavior.* Cambridge: MIT Press
Kaufmann, S. (2000), *Investigations.* Oxford: University Press
Kompier, M.A.J., & F.H.G. Marcelissen (1990), *Handboek Werkstress.* Amsterdam: NIA
Lewin, R. (1992), *Complexity. Life at the edge of chaos.* New York: MacMillan
Nieborg, S. (2000). Gedeelde zorg: gedeeld werk. Onderzoek naar verandering van de arbeidsverdeling in het gezin. Amsterdam: Ph.D. thesis Universiteit van Amsterdam
Penrose, R. (1995), *Shadows of the mind. A search for the missing science of consciousness.* London: Vintage
Ramella, M. (2001), Taking part: a study of adolescent sexual health promotion in Peru. London: Ph.D. thesis London School of Economics
Sen, A. (1999), *Development as Freedom.* Oxford: Oxford University Press
Vahl, M. (1994), Improving mental health services in Calderdale. Report of the Centre for Systems Studies. Hull: University of Hull
Waldrop, M. (1992), *Complexity.* New York: Simon and Schuster

Zeeuw, G. de (2001), Three phases of science: a methodological exploration.
    Systemica, vol. 13, p. 433-461