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RESEARCH TO SUPPORT SOCIAL INTERVENTIONS

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ABSTRACT

Research to support social interventions

Social interventions are intended to improve cooperation between two or more mutually productive roles. Examples include relationships between teachers and students, clients and social workers, managers and non-managers and police and the policed. A number of approaches have been developed to accelerate the implementation of such interventions, including action research, the evidence-based approach, the soft-systems approach, the Mode 2 form of knowledge production and many others.

The status of these approaches as forms of research is contested, even in cases in which the term “research” has become part of an accepted name. Opponents to the notion that these approaches constitute research note that they allow contributions in the form of observations (or reports of

observations) as well as judgements. This is in contrast to traditional forms of research, which restrict themselves to observations. Proponents treat both types as observations.

The aim of the paper is to identify a form of research that makes use of both types of contributions without ignoring the distinction between them. It is a hybrid. It is argued to show a clear family resemblance to traditional forms of research, however, and to support social interventions in the same way that those forms support technical interventions.

A short history is included in order to identify the place of this hybrid within the development of research and to show how it helps to improve the approaches mentioned, as well as others (such as design research) by providing a more exhaustive treatment of judgements than is usual. An academic discipline (andragogy) that focuses on this type of research is referenced. The hybrid is recognized as part of the “next area of development” of research.

Keywords

Judgement system, observation system, coordination language, competence, resistance

SAMENVATTING

Onderzoek ter ondersteuning van sociale interventies

Sociale interventies zijn bedoeld om de samenwerking tussen twee of meer wederzijds productieve rollen te verbeteren zoals die tussen docent en student(en), cliënt(en) en sociale hulpverlener, manager en ondergeschikte(n) en politie en publiek. Er zijn diverse benaderingen ontwikkeld om de realisatie van zulke interventies te versnellen. Voorbeelden omvatten actieonderzoek, evidence-based onderzoek, the “soft system approach”, de Mode 2 vorm van kennisproductie en vele andere benaderingen.

De status van deze voorbeelden als onderzoek wordt betwist, ook in die gevallen waar de term onderzoek als deel van de naam wordt geaccepteerd. Tegenstanders van het idee dat deze benaderingen onderzoek vormen, merken op dat ze bijdragen toelaten in de vorm van zowel (gerapporteerde) observaties als van oordelen – anders dan traditionele vormen van onderzoek die zich beperken tot (gerapporteerde) observaties. Voorstanders behandelen beide bijdragen als observaties. In deze bijdrage wordt een type onderzoek geconcipieerd dat gebruik maakt van beide bijdragen zonder het onderscheid daartussen te laten vervallen. Het gaat om een hybride type. Er wordt betoogd dat dit voldoende gelijkenis vertoont met traditionele vormen van onderzoek om als onderzoek te worden erkend en dat het helpt om sociale interventies op dezelfde manier te ondersteunen als traditioneel onderzoek technische interventies ondersteunt.

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Een korte geschiedenis laat zien hoe dit hybride type past in de ontwikkeling van onderzoek en tevens dat het ontwerponderzoek en benaderingen zoals de al genoemde effectief ondersteunt (via een meer uitputtende behandeling van oordelen dan daarin gebruikelijk). Er wordt gerefereerd aan een academische discipline ("andragologie") waarin zulk onderzoek centraal heeft gestaan. Dit type wordt gezien als het "naastgelegen gebied van ontwikkeling" van onderzoek.

Trefwoorden

Waardensysteem, observatiesysteem, coördinatietaal, competentie, weerstand

INTRODUCTION

Research pervades education on many levels. Although it is most prominent on the university level, its presence on other levels is increasing. This development is often seen as necessary to strengthen economies. Research also pervades other areas of society in order to support such processes as social management and policy. The implications of the increasing prominence of research are not all positive. A broad dissemination diminishes much of its subtlety. It also reduces its power in that the activities that are being performed eventually seem to lose their similarity to research (Ziman, 2003).

These claims are well supported, despite the increasing availability of literature on how to conduct research. The claims are also surprising. If research is to contribute to social processes, it is difficult to understand why it cannot be taught well and applied correctly. A number of reasons come to mind. One is that the materials that are taught address only the patterns of research (as with the formulae of algebra) and do not lead to a deeper understanding or increased competence. Another explanation may be that research methods that have proven successful in some areas (e.g. economic development) are not appropriate to address issues in other areas (e.g. improving society).

The two reasons are partly related. If a form of research proves inappropriate for its purpose, this may indicate that it has been taught incorrectly or in the wrong form. Overcoming this problem requires clarity about what the appropriate forms of research are. Such clarity does not yet seem to exist. Attempts to social improvement appear to fall into two categories. Some can be accepted as research, although misapplied, as their inputs are too limited to generate the knowledge required for social improvement. In other cases, the inputs are sufficiently broad, but

their analysis fails to generate the quality of knowledge that traditional forms of research are able to produce.

The notion of input is used to facilitate the development of research that is fit to support social improvement. It is consistent with a relatively undisputed interpretation of research as the production of knowledge. In this interpretation, research takes as its input primary sense data or observations¹, as Descartes noted as early as 1641(2004), and as its output predictable observations. During their analysis, non-observational experiences may be added to the input. Examples include mental constraints (Kant, 1960) and analogies (e.g. to railways in the 19th century or to computers in the 20th century) as well as judgements, as when people see what they want to see.

Part of this Cartesian form of research is to minimize such extra inputs. The reason is that, if all inputs would be accepted, including judgements, the output (predicted observations) might reflect desired outcomes, thereby ceasing to be predictions (Hanson, 1979). This does not mean that judgements and research are never combined. Technical interventions, for example the distribution of water to private homes, depend on knowledge about water, but also on the specification of what the distribution is for. This is not part of the production of knowledge, however, which it only constrains or contextualizes² (O'Brien, 2001).

This form of research seems to be quite weak when called upon to support social interventions. For example, consider aiming to acquire knowledge to eliminate sexual taboos. When this judgement (i.e. elimination) is excluded from the input, the remaining input no longer leads to knowledge that only supports achieving elimination, but may be used to increase acceptance as well. A contextualization of the research in terms of either objective is also too limited, as this might exclude important alternative objectives. For example, elimination of sexual taboos is likely to lead to resistance from those in favour of acceptance, and vice versa. This implies that the target may not be realized, despite the research.

To take care of this weakness Reason and Rowan (1981), building upon Lewin (1948), continued using the contextualized form of Cartesian research. They tried to broaden the objectives as a way to avoid resistance. For example, one should "emancipate" people or "liberate" them from a lack of advantages and have them commit to such objectives (Flood, 1990). This means that both the objectives and the commitment become part of the input and that it no longer is possible to acquire knowledge guided by Cartesian concepts. While the approach is labelled action research, its status as research thus is difficult to defend.

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How one should distinguish between contextualizations that are still linked to research and broadened contextualizations that are no longer part of research has been the source of much concern. This includes approaches such as Soft Systems Methodology (Checkland, 1981), Integrative Management (Warfield, 1990), Design Research (Fallman, 2008) and many others. There is a similar doubt about evidence-based research, which is claimed to lead to knowledge in the form of programmes that “have shown in rigorous evaluations to have sustained, meaningful effects on the life outcomes you wish to improve” (Gorman-Smith, 2006, p. 1), preferably through “randomised control trials” (RCT).

The evidence-based approach exemplifies a further, although slightly different attempt to include objectives in the production of knowledge.³ It faces similar difficulties as action research, however. It is advised, for example, to appoint a “top-level official” who is a “strong proponent of the intervention” to negotiate and implement the necessary external conditions to use the resulting knowledge (Gorman-Smith, 2006, p. 4). As the choice of such a person is not made explicit, it appears likely that his or her actions and negotiations will be resisted (in some countries even especially if the person is a “top-level official”).

The failure of these and similar attempts to deal with judgements as input to research or in combination with research can be illustrated by the tragic case of Alan Turing, the renowned British decoder during the Second World War (Copeland, 2000). Turing was judged “guilty” of homosexuality and considered a national risk, despite his achievements. A treatment was imposed (presumably administered by a “trained” and “top-level official”, as advised by evidence-based programmes). Although the exact details are not clear, it is suspected that Turing committed suicide as a way of resisting the treatment.

These considerations suggest that modifying contextualizations may in principle be insufficient to resolve the dilemma of including judgements into research and still finding a proper balance between too little and too much. A different form of research is indicated. It would need to include the dilemma as part of its knowledge production. It might also include elements of action research such as that those who contribute to the intervention also benefit from it; or elements of evidence-based research to ensure that conditions are negotiated. These elements suggest that the approach includes people (as actors) who interact to determine what judgements or objectives to accept as input to the production of knowledge.

The article is organized as follows. The first section offers several examples of preferred social interventions and of how they compare to technical interventions. These examples are followed

by an attempt to identify the family of research approaches that may support social interventions. In the following section, the intended form of research is described and evaluated as a member of this family. The fifth section includes a short history of attempts to identify this form of research, including a reference to andragology, a discipline dedicated to the support of social interventions.

EXAMPLES

A small English city decided to help its relatively large population of people with disabilities find work. The city commissioned a needs analysis in order to identify needs, prioritize and selectively satisfy them. This approach is standard and easy to implement and does not need a full understanding of outside objectives (i.e. providing help). Consequently, the results often amount to little more than technical interventions, like providing courses (largely involving IT) and information about jobs. Such interventions do not address wider issues, like the impact of the assistance once it has been delivered.

The person engaged to conduct the needs analysis demonstrated to the city council that its approach contained an inherent flaw. Satisfying needs in order to generate new needs produces an infinite regress. The alternative was to organize an official network of people with disabilities who generate and maintain their own objectives in order to function as a social actor. Members were enabled to take responsibility and to decide on training and ways of accessing jobs. The assignment succeeded by including the aims (i.e. the non-observational experiences) of the target population (Vahl, 2006).

Similar interventions are being developed elsewhere, sometimes on a much larger scale. Coping with the way that climate change influences people's lives reveals a similar dilemma. One approach attempts to satisfy the "needs" that nations may wish to prioritize and satisfy (as in the case of the people with disabilities). Another approach involves organizing a social actor (with entire countries as members) that is able to define and select a preferred future and to develop the resources needed to achieve that future, even if their objectives differ widely (Pagels, 1984).

In order to identify the "needs" of the target group, a number of models have been developed to predict the social consequences of changes in the climate (rather than those of changes in the weather). Examples of climate change include increases in temperature, leading to rising sea levels and flooding of low-lying areas. Further work has identified additional

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judgements (e.g. the need to reduce the amount of CO₂ at higher altitudes, as its increase appears to cause the rise in temperature). The affected countries have not yet agreed on prioritizing these needs.

Similar dilemmas can be found in the area of information network security. On the one hand, there is a continuous search to identify needs for security. This leads to technical interventions (e.g. security software). The alternative insight that is gaining ground is that companies and other users of information networks should attempt to become an actor (like the people with disabilities) by developing the resources needed to cope with unexpected disturbances, with partly non-observational experiences (e.g. commitment) as input (Wagner, 2010).

These examples identify what may be needed for research to include judgements (or objectives). It may be necessary to satisfy a combination of constraints.⁴ It will be necessary for people to cooperate in some task, as in action research. It will also be necessary for the cooperation to contextualize itself by organizing both its collective objective and the contributions of all those who are involved. Self-organization and exercise in order to deal with threats should make it possible for people to create the contextualization necessary to their own form of research.

FAMILY OF RESEARCH

The notion of research has been introduced in the discussion above by reference to prediction and to the need to include the anticipation of threats into the notion of knowledge. This distinction between prediction and anticipation reveals a difficult dilemma regarding whether to include judgements or objectives in the production of knowledge. Restricting the input to observations would limit people to searching for predictions and hence to Cartesian research. On the other hand, including judgements beyond what is needed for contextualizations might no longer be considered research or even modified research.

Further exploration of the nature of research may help to resolve this dilemma. An obvious starting point would be the time before research became institutionalized and after it was identified, for example by Descartes (2004). At this time, the first half of the 17th century, there was considerable resistance to the authority of governments and religious organizations. The strongest challenges to this authority came from individuals who were starting to observe what originally only collectives could observe, as was the case with the aptly named Protestants. The resistance was most explicit in areas such as astronomy.

Many attempts have been made to characterize this resistance, which eventually became institutionalized as research. Some authors have proposed that research be restricted to finding knowledge of mechanisms (Dijksterhuis, 1950). This restriction would allow observational variety to be partitioned such that variations in the parts would sum to the variation of the whole. In this view, the results of research take on an autonomic and law-like character⁵, thus implying the possibility of prediction (i.e. descriptions of what is to be observed in the future); it is not (or only minimally) influenced by events before the prediction is to be realized (e.g. the preferences of individuals and collective authorities).

The mechanical model of knowledge implies that research is conducted such that it results in predictive knowledge. The advantage is that such knowledge can be used to support any kind of intervention. Another advantage was that it enabled research⁶ to be effective in opposing observational claims made by traditional authorities. It also meant that research was denied any power in the moral sense, as the mechanical model does not include any comparison of emotions, aims and sensory data (e.g. smell and taste). While it excludes the notion of development, the constraints the model identified did develop, as evidenced by the introduction of statistical reasoning in the 19th century (Hacking, 1975).

The Second World War ultimately provided a strong stimulus to the idea of contextualizing the acquisition of knowledge (e.g. as a way to increase the ability to shoot evasive pilots). This is exemplified by the development (mainly in the 1950s) of research that focussed explicitly on problems (i.e. observations contextualized by a preferred future state), as formulated by Simon (1981). Similar developments led to operations research (Gass, 2002), Cybernetics (Wiener, 1948), Systems Research (Von Bertalanffy, 1973) and Gaming (Von Neumann & Morgenstern, 2000).

Contextualization was also applied to address situations for which there were no easy summaries of objectives or judgements and hence no effective contextualizations – primarily in the late 1960s. Developments included participatory and non-participatory action research (Hughes & Seymour-Rolls, 2000), evidence-based research and soft-systems methodology (SSM; Checkland, 1981). It has already been argued that these approaches fail to qualify as research, as they do not clarify what knowledge may help to ensure an acceptable level of autonomy from outside variation (i.e. resistance).⁷

The aim of this paper is to provide this clarification. It will consist of the formulation of models to guide research such that the knowledge that is acquired includes judgements (as desired) as well as

observations and such that this knowledge supports social interventions. The process of acquisition along the line of these models is argued to be part of the family of research (forms of research that expand on each other) and therefore to be research. It has a family resemblance to some, but not all, of its members (Wittgenstein, 2001-nrs. 65–72).

Recognition systems

An appropriate first step in developing this argument would be to determine what the family of research might comprise. The prime candidate to be named as its progenitor appears to be Descartes' (2004) description of what he considered an example of research. Descartes noted that anything that can burn, moulded (e.g. into candles) and can take the form of both a liquid and a solid, can be called by the same name: wax. Such naming differs little from nominalism (Goodman, 1951), but there is a twist.

Descartes also identified the advantage of using names to identify phenomena or observations as members of a named class. Such phenomena may be part of the present, or they may be reported elsewhere or in the future (as with predictions). Names that have this property are known as theory, model or code. These concepts contribute to the notion of knowledge. They represent a general ability to name, as well as to use the name for recognition even of what has not been previously observed. The naming is considered exhaustive if there is a minimum of errors of either omission or commission.

The special nature of naming may be clarified by the realization that names do not usually show both aspects together – being names of observations as well as ways to recognize elements of what is named. The second aspect is lacking in similes, metaphors and analogies. For example, metaphors provide names, but they do not help to recognize whether some new observation belongs to the named.⁸ The same applies to judgements, as when an entity is named by a value. Calling something beautiful does not allow that which now is named beautiful to be recognized by the name beautiful. This prevents judgements from being included in traditional (i.e. observational) forms of knowledge.⁹

Judgement systems

This exclusion of judgements can be illustrated by the way judgements contextualize research, as in the case of distributing water to private homes. In the example, the judgements remain external

to the research. They serve only to create a distinction between that which is considered an input to knowledge and which is not. To make judgements part of research would require the ability to create judgement systems that resemble recognition systems. One example would be a collective whose members decide which values to assign and which values to include in order to maintain and defend their decisions.

Such a collective would bring individuals together to achieve some objective, but it would also add the capacity to ensure autonomy and independence of events outside the collective. This suggests that the collective may function as knowledge in support of the action of the collective (to be produced by the collective itself). It is a hybrid in that it serves as a judgement system (to identify which values to assign to the contributions of members so they may do what benefits the collective action) and as a recognition system (to determine whether the collective action is performed as desired and whether changes in contributions are necessary to continue adequate performance).

One example of this kind of collective would be the “noses” in the perfume industry. This is the name for people hired to collectively assign values (e.g. “slightly acidic”) to some mixture of chemicals. The group would not be able to observe “slightly acidic”, but members would be willing to assign that term to the mixture. The collective would thus implement a viable reverse procedure to naming: members may assign the term “slightly acidic” to anything that their sensitive noses may identify as the same mix. The group serves an important role: to advise which mixtures to continue marketing and which not.

Another example is how doctoral students learn. They may decide to study on their own, checking things in the library and on the Internet. They may also decide to cooperate with other students, possibly advised to do so by a supervisor. Cooperation may lead to the development of concepts such as “research problem”.¹⁰ Each student may become able to apply this concept in his or her own area, with different meanings. To continue cooperation, a hybrid combination is needed of judgement systems (for each student what to choose) and of observation systems (for each to see what others contribute to what).

The examples presented above identify what is required to develop collectives to serve as knowledge in support of a collective activity. Members must talk to each other in order to assign a value to their contribution so the collective may achieve its objective autonomously (i.e. independent of external events). The first implication of this requirement is that members negotiate

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as part of a judgement system. The second implication is that this process of negotiation helps their collective to self-organize and become a system for recognizing its achievements (Shoham & Leyton-Brown, 2009).

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This approach accepts judgements as inputs to produce a collective's knowledge. By coordinating its individual and collective activities, just enough judgements can be involved to ensure that the collective serves as its own sufficient resource. The balanced inclusion of judgements "embodies" those of the collective's members and transforms them into "judgers". Becoming independent "disembodies" observations and turns the collective into a "recognizer" or "observer". The latter procedure relates the approach to Cartesian research; the first limits this relation to what members wish to achieve.

This raises the question whether the approach is sufficiently close to at least some members of the family of research to qualify as family and hence as research. The answer is yes in at least two ways. Being "embodied" makes a collective situated. It is linked to some activity and to certain bodies (Rosen, 1993). It will also be independent from external events and in that sense sustainable or transferable through time. Transfer may also consist of being able to use the coordination of activities in different places – independent of the individual characteristics of those making up the collective.¹¹

The two answers together close the argument. The development of collectives resembles the process of contextualizing but the judgments do not remain outside. They are part of how the collectives develop and hence of the knowledge they acquire to act. The process is analogous to stem cells being constrained to become adult cells with specialised objectives, as in the "collective" of the liver (Hochedlinger, 2010). This suggests that the approach constitutes an extension of some members of the family (what is added is the ability to include judgements), just as the contextualization to build a water distribution system constituted an extension of Cartesian research.¹²

This extension also implies that the notion of knowledge is changed. Cartesian knowledge consists of statements that connect observations and support prediction in terms of their connections. Such knowledge is expressed as the variety of observations within the connection (Swanborn, 2002). In

the approach presented above, knowledge refers to a group of people maintaining and developing a collective that behaves like an actor. This means that members have to communicate using some kind of language, including body language. Other languages that have been explored are: the language of gaming and the language of decision-making (Day, 2003).

This concept of knowledge does not appear to clash with its popular use or understanding. When we say that a company is able to perform as intended, it means that members have access to the knowledge created through their interaction. It may happen that this knowledge is not sufficient to cope with threatening events. In this case, a new form of coordination has to be created. To prepare for such an event, companies may wish to train by striving to identify threats, preparing to cope with them and thereby increasing knowledge.

One advantage of accepting this hybrid approach as research is that it helps to provide explanations for the apparent lack of durability and exhaustiveness in the results of other approaches, including action research (e.g. participatory, radical, contextual), design research, SSM and similar approaches. What they lack is the systematic treatment of judgements (Varela & Shear, 1999). The advantage of hybrid research is that it is able to discipline and improve other approaches by adapting their coordinating language.

FURTHER EXAMPLES

Technical interventions are supported by research dealing with observations that are contextualized by some relatively general judgement. The combination may be referred to as a problem. As indicated, research to support such interventions is set up to solve the widest class of problems (e.g. the distribution of water to all homes, even those difficult to approach). Developing social interventions shows a similar structure, except that the contextualization now consists of having a number of people organize themselves (and “exercise”) in order to achieve their own objective(s). The problems they solve are defined through their knowledge.

The hybrid approach may also be compared to a football team preparing for a match. The objective (to score goals while the opponent tries to prevent them) is not self-organized. It is part of each game and constitutes a constraint on participation. Teams exercise to anticipate threats from their opponents. If a team is well prepared – and has anticipated many threats – players often report mutual trust and respect. This is supported by well-exercised forms of coordination and signalling (e.g. shouts and pointing).

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What players are able to contribute in a match is constrained by the rules of the game (its language) and by the individual strategies and aims developed within those rules. There is some leeway, however: players have a choice (i.e. to remain within the constraints or not). To prevent a game from leaving the family of football games, a referee may be engaged to punish players for stepping outside the constraints. Both the referee and the players must be able to observe any excesses, and to act according to their observations.

As mentioned previously, the approach suggested to support the implementation and development of social interventions is a hybrid, a combination of a recognition system and a judgement system. Recognition systems are usually expressed in terms of variables or prepositional statements, as in technical interventions. Judgement systems tend to use different kinds of coordination, which may consist of local rules that connect close neighbours (Reynolds, 1987; Kauffman, 2000; Fischer, 2009) or of languages that coordinate judgements.

Collectives like football teams and business organizations often do not start as a research-supported activity. Nevertheless, it is often possible for research to contribute at a later time. Such research-led support is proving increasingly important, although it is still limited in numbers (Albee & Boyd, 1997). Examples include self-help groups (Bakker, 1987) and ambient medicine (Walhout, Schuurman, Moelaaert El-Hadidy & Krom, 2009), in which individuals act on medical advice they receive through the Internet. A large area of endeavour is community development (Vahl, 2006).

Studies in which the development of recognition systems still dominates are easy to find. This is especially striking for well-known attempts that use concepts such as social capital (Bourdieu, 1986; Hobbs, 2000; Kessels, 2008). In this case, it is proposed that collectives develop through a series of steps (e.g. "gathering information", "analyzing the situation", "prioritising actions", "joining into groups" and "implementing these steps").¹³ Unfortunately, no mention is made of maintaining the quality of the knowledge that is produced (like "referees"). The approach is not part of the family of research, therefore.

The same seems to apply to studies of knowledge management (Nonaka & Takeuchi, 1995), although the need for research has been acknowledged. The aim is to improve communication so that members of an organization are able to improve their performance. Communication may be improved using the approach presented here. While observational forms of research remain frequent, the results of such studies appear restricted to recommendations such as to develop

a “no-blame culture” and an “open-door policy”, to introduce “risk”, “admit mistakes” and “reduce information overload” (Davenport & Prusak, 1998).

HISTORY

Projects to improve communication and promote trust, respect and reciprocity and to increase the efficiency and effectiveness of organizations to achieve their objectives are by now well known. They emerged a long time ago (e.g. Freud, 1910; Kübler-Ross, 1970), and their numbers apparently run into the millions. Their popularity is presumably based on perceived success (or non-perceived failures). Leaders of such projects often present their projects as research. The notion of justifying the use of judgements is seldom implemented, however – except maybe as a relatively distant discussion on ethics.

Although few people seem deeply bothered by this lack of interest, there are frequent attempts to rectify the situation. One example is the distinction between Mode 1 and Mode 2 forms of knowledge production, as proposed by Nowotny, Scott & Gibbons (2001). The Mode 2 knowledge production includes projects designed to produce knowledge as the capacity to act. The proposal has been severely criticized (Fuller, 2000) for its focus on single problems rather than on autonomous classes of problems, as well as for its merging of observations and judgements.

An institutionalized attempt to develop research to support social interventions was the introduction of a new discipline in Dutch universities in the late 1960s. It was known as “andragology” (derived from the Greek: the discipline of human action), and it focussed on such topics as adult education, social work, community development related to the built environment and business organization. It soon became clear that observational forms of research were not adequate (Ten Have, 1973; Groen, Kersten & De Zeeuw, 1980; Vahl & De Zeeuw, 2006).

After some 30 years of successful development, budget cuts induced the government to integrate andragology into sociology and psychology. Although considerable effort is still invested in developing andragological projects, the main form of research to be used appears increasingly observational – replacing the hybrid-like forms of research that were developed in the 1980s (Groen, Kersten & De Zeeuw, 1980). These forms already included the notion of self-organized independence of collective actors. Work in this direction has continued, however, and spread into other disciplines (Guba & Lincoln, 1989).

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One example involves a study addressing the economic and financial depression of 2008–2010. When dealing with this depression, managers often revert to formal, rule-like and non-collegial behaviour that reduces communication and even damages the interests of their companies. Non-managers increasingly show forms of resistance that contribute to their own competency, as well as that of and their companies. The coordination required makes use of languages that include employees in models of their activities (Mendy, 2009).

The research introduced to support social interventions implies a sea change in ethical awareness; it implies a shift from finding ways of including only observations to finding ways of contextualizing observations and making them accessible as resources. The shift opens the possibility of including judgements and other emotions. This change appears directly linked to another change, the increasing interest in languages, which may not have arisen without the interest in ethical issues. This shift is sometimes referred to as the linguistic turn in research (Clark, 2004).

These historical notes raise the question of why interest in the inclusion of judgements in research is increasing (Habermas, 1984). One reason may be dissatisfaction with technical interventions. Traditional sources of power are being devolved, thus enabling communities to choose their own objectives. Another reason is that research based on the lack of interaction (e.g. statistical inference) appeared increasingly insufficient despite its ubiquity. Hybrid research seems to identify the “next area of development” (Dijksterhuis, 1950; Vygotsky, 1962; Bruner, 1983).

CONCLUSION

This paper started by noting an increasing tendency to refer to social-intervention projects as research. The reasons for this tendency include failures in education or a lack of properly designed forms of research. The tendency is problematic, however, as it may imply a loss of quality in what is being achieved. It has already inspired a number of authors (e.g. Ziman, 2003) to argue for a return to pure research, unencumbered by political motives and judgements. The focus of this paper is on presenting a form of research that adequately supports what is required.

The paper refers to various attempts to identify the obstacles that prevent social-intervention projects from being considered as research, and to change such projects in the direction of research if possible. Three issues were identified. Research was shown to exclude values, objectives and emotions from its input. It was argued that projects should focus on anticipation rather than on prediction, as well as on preparation to deal with difficulties. It was further noted that a basic

dilemma or paradox arises when research is required to produce non-situated, disembodied results while including situated judgements.

It was argued that another approach would be more effective in supporting social interventions while also qualifying as part of the family of research. This approach introduces the notion of embodied collectives, the members of which negotiate preferred future states and develop resources for individual and collective action. Members should use language to coordinate their activities. The proposed approach does not serve as an observational theory or recognition system. It allows members to develop objectives and commitments that help perform collective actions.

In this article, such activities have been interpreted as the production of a new (or at least a less familiar) form of knowledge. A crucial characteristic of this type of production is that collectives attempt (strive to “exercise”) to change their languages of coordination so that members can transform their contributions into appropriate resources. It has been shown that any project intended to realize a form of action can be made part of this form of research. The resulting knowledge may be transferred to other collectives by re-using the language.

NOTE

- 1 Descartes referred to observation as the primary sense, and to the other senses as secondary.
- 2 This contextualization has many names, including engineering.
- 3 The criticism involves evidence-based research that is designed to evaluate and support social interventions (Marston & Watts, 2003), and not empirical research in general.
- 4 The combination of constraints leads to a number of paradoxes and dilemmas, including those of the Commons (Hardin, 1972), Choice (Arrow, 1950) and Prisoners (Howard, 1971). The form of research identified in this paper has been argued to help resolve these paradoxes via relevant forms of communication (Axelrod, 1984; Axelrod & Cohen, 2000).
- 5 The possibility of prediction is implicit in “recognition systems” (see later in the article).
- 6 In the sequel, research refers to attempts to contribute to science.
- 7 Checkland & Holwell (1998) are clear about having to search for such autonomy, although they fail to clarify how it may be found in practical situations (except through ensuring recoverability by providing a full report of what has been done).
- 8 A relatively trivial example is the metaphor “science is war” (Lakoff & Johnson, 1980). It is used to characterize and name science, but it identifies too much: war is not only science).
- 9 The development of “qualitative methods” may be interpreted as another way to include non-observational experiences in research. The aim of these methods has

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been defined as the search for “underlying” patterns. This leads to a paradox. Qualitative methods imply a replacement of judgements (i.e. replacing values with patterns) similar to the evidence-based approach, and not the inclusion of judgements.

- 10 Interestingly, some authors equate solving a research problem to solving a problem (Easterby-Smith, Thorpe & Jackson, 2008). This negates the need to develop (and monitor) independence from outside variation (in order to stay within the historical development of research). It thus implies that research aims to solve the widest possible classes of problems.
- 11 In the case of doctoral students, cooperation depends on the use of a *language* (Popper, 1974; Simon, 1981). The role of the language of problem solving (i.e. to help configure “solvers of research problem”) differs from the language of a *theory* of problem solving (Newell & Simon, 1972).
- 12 These similarities allow for some loose naming. Research that excludes judgemental contributions can be referred to as Cartesian. Research that includes such contributions is evolutionary and has a Darwinian flavour: the breeding of more able (competent) collectives.
- 13 An approach based on somewhat similar elements is the actor-network theory of Latour (1987, 2005). This theory also does not refer to notions of “exercise” or striving for exhaustion.

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