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Seized by Agreement, Swamped by Understanding

Constructivism and Collaborative Enterprises

A contribution to a conversation about
a constructivist epistemology for the conduct of collaborative inquiry

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Abstract

This paper is a contribution to a dialogue on contructivist ideas in qualitative research in which collaborative inquiry is a central feature. By this I mean a process of finding out how both 'researchers' and 'subjects' have come to conceive an issue through sharing of their perceptions. Collaborative or participatory *action research* is an example of this approach. I propose that a constructivist *methodology* or *epistemology* for collaborative inquiry can be developed from primary theoretical concepts such as *Structural Determinism* of Maturana, *second order cybernetics* of von Foerster and van Glasersfeld and of *Personal Construct Theory* of Kelly. I further propose that secondary interpretations of these seminal ideas by family therapists helps to show how to use this epistemology in collaborative inquiry.

The *method* or practice based on such an epistemology is a series of conversations which have as their focus an understanding of the lived experience of persons regarding specific issues. The central dynamic is learning both by those who contribute their stories and those who have responsibility to effect change. The purpose of these collaborative conversations is to recognise how belief systems - of both professionals and 'subjects' - relevant to the issue under consideration have been created, what beliefs underpin current practice and how the product of interaction may be used to change practice.

Integral to this kind of conversation is the role of the facilitator of collaborative inquiry and the nature of relating based on a constructivist mode during the conduct of research.

Introduction

My argument is that inquiry which requires collaboration between researchers and people who have direct experience of the phenomenon under consideration needs an epistemology to underpin the process of inquiry and its outcomes. I propose that a constructivist epistemology synthesised from diverse seminal concepts can fit this bill.

What is constructivism? As I understand the term it is a phenomenological orientation to inquiry in which 'meaning' is the prime focus. Its *potential* has been well articulated by Guba and Lincoln (1989 and 1990). These authors, writing about evaluation research, pose the question 'Can there be a human science?' and go on to suggest that constructivism is a viable paradigm for the study of human interaction. They compare this paradigm with possible alternatives - postpositivism and critical theory - and come to the conclusion that constructivism offers the most useful way forward.

The underpinnings of constructivism have also been examined and articulated well by health care professionals whose focus is squarely on meaning-generation and language generation. One is practitioners of Personal Construct Psychology (Kelly, 1955; Viney, 1990) and the other is family practitioners (Anderson and Goolishan, 1988).

I submit, then, that the foundations of a constructivist methodology are available from what has been accomplished conceptually by therapists and evaluation researchers. I see that these authors have articulated a starting point for the ongoing development of an epistemology which underlies the conduct of collaborative enterprises. I believe, however, that there are additional concepts which can be linked to their version in order to develop a mature and powerful framework specifically for collaborative inquiry. It is those additional ideas which are the focus of this paper.

What I want to do here is outline ideas on some fundamentals of constructivism, as I understand it. I then indicate how to incorporate ideas derived from recent developments in understanding of the biology of cognition and from associated concepts of second order cybernetics, active participation and the role of language in determining how people interact with each other in small and large communities.

The task is to link the respective accomplishments into a coherent whole; not an easy undertaking, but one which could bring substantial rewards. These rewards could derive from greater understanding of what collaborative enterprises are and what could be accomplished through them.

Developments of which I am aware are the primary theoretical concepts of *Structural Determinism* of Maturana, *second order cybernetics* of von Foerster and von Glasersfeld and of *Personal Construct Theory* of Kelly. I go on to propose that secondary interpretations of these seminal ideas by family therapists help to show how to use this epistemology in research based on collaborative inquiry.

A personal perspective

Information about how I came to produce this paper may be useful to you, the reader, to appreciate the background to the ideas. The paper has a personal flavour about it. Could it be otherwise? I was trained as a biologist, with a PhD in nutritional science who has subsequently gathered, highly eclectically, ideas linked to an array of social sciences. The trigger for this shift was the 'discovery' of the significance of 'meaning' in people's choice of food. Whether this discovery was fortuitous or not is unfathomable; it has certainly led to unexpected routes on my journey.

Until June 1994 I held an academic position and conducted research and training in qualitative research. My research, thinking and reading about connections between constructivism and qualitative research started through trying to understand why people ate what they did. (Stewart, 1988 and 1990). The content of this paper has been shaped by the conversations I have had on this topic and, in the past few years, diverse others related to experiential elements of health care, and to foundations of constructivist approaches. Most recently I have been a contributor to participatory action research projects on the meaning of family violence to young people and on access to food.

Among these conversations have been encounters with Humberto Maturana in his previous visits to Australia, beginning in 1988, and with two of his erstwhile colleagues, Heinz von Foerster and Francisco Varela. I met these people at a conference on 'Disorder and Order' in California in 1981. In addition I have had close associations for about 15 years with people fascinated by Personal Construct Psychology, originally created by George Kelly. I want to acknowledge also the friendship of my co-editors of this volume. Their contributions to whatever I produce are immeasurable.

It is largely through these conversations that I have come to an understanding of 'So what we know as our world and what we know as ourselves are part of the same process - they're inseparable.' In other words, our conversations (including with ourselves) shape what we know and this, in turn, is a function of the distinctions we as individuals 'bring forth.'

New recognition of the potential value of collaborative inquiry

Collaborative approaches to research are attracting increasing attention of, among others, health and welfare practitioners and policy makers. One reason for this is that they appreciate that the provision of services is essentially a social activity and hence the methods of social sciences have relevance for their actions. This applies, for example, to concerns for consumer rights and responsibilities in the evaluation of service delivery. In this context questions are increasingly being asked about how recipients of services perceive the services and what impact they have on people's experience of illness or deprivation.

Qualitative methods are appropriate to engage with people in research studies to investigate these kinds of issues. This is because they are based on a form of

inquiry 'concerned with understanding human behaviour from the informant's perspective [and it] assumes dynamic and negotiated reality' (Minichiello *et al*, 1990).

There is also growing recognition that the effectiveness of services depends on the active participation of recipients at all levels of the enterprise. The concept of active participation by people is central to collaborative inquiry, because here it is reports of lived experience which are the data on which subsequent action is taken to improve the effectiveness and efficiency of measures to remedy the problems under consideration.

Perhaps the most salient reason for pursuing this approach to research is the recognition of its great potential to reveal new ways of proceeding in the provision of services for which traditional methods are no longer effective. Coming to understand the world view of people most in need of services can obviate the continuation of outworn approaches based on limited view of professionals who have not appreciated contextual changes. This is the basis of a 'different' approach to research to resource more meaningful interventions inclusive of professional and non professional participation in the issue. This means that all participants in a research enterprise have clearly identified and negotiated their rights and responsibilities to effect change within their particular 'realm of influence.'

A distinction between methodology and method

Before proceeding I want to emphasise that this paper is about a specific *methodology* for qualitative research. It does not deal with the 'divide' between qualitative and quantitative approaches; it does deal with distinctions between methodology and method. It is concerned with philosophy - a love of wisdom about how to go about one's business. This wisdom, I suggest, is what we seek about what we're doing when we undertake qualitative research on people's 'reality.'

In dealing with philosophy we are in the realm of epistemology or trying to understand the nature of knowledge, of beliefs and of connections between beliefs and evidence. I suggest, as have many others, that it's not possible to conduct rigorous applied research without trying to understand its philosophical underpinnings.

A participant in a recent workshop on *Qualitative Research Methods* noted that, as a practitioner of family therapy, she had not been concerned about epistemology, 'just with techniques.' In her assignment for the topic she reflected on her practice through posing the question 'What is therapy?' This has led her to appreciate that, in Bryman's (1984) words 'When we speak of 'quantitative' or 'qualitative' methodologies, we are, in the final analysis speaking of an interrelated set of assumptions about the social world which are philosophical, ideological and epistemological. They encompass more than simply data gathering techniques.' She commented that coming to this new appreciation had been 'a tour of discovery.'

The term methodology refers to abstract philosophical issues of epistemology - how we know what we know - while issues of research practice are termed method (Bryman, 1984). This distinction is useful when thinking about *Personal Construct Theory* (PCT). This theory can be embedded in a methodology of qualitative inquiry. Conversation linked to the process of devising and analysing the completed contents of a repertory grid - commonly associated with PCT - is one method for collecting data. Another method for gathering constructivist data is text analysis of interviews or focus group discussions. Table 1 gives a framework for how (method) some kinds of qualitative data are collected.

Table 1. Qualitative approaches as method (from Hammersley 1990)

(a) People's behaviour is studies in everyday contexts, rather than under experimental conditions created by the researcher.

(b) Data are gathered from a range of sources, but observation and/or relatively informal conversations are usually the main ones.

(c) The approach to data collection is 'unstructured' in the sense that it does not involve following through a detailed plan set up at the beginning; nor are the categories used for interpreting what people say and do pre-given or fixed.

(d) The focus is usually a single setting or group, of relatively small scale. In life history research the focus may even be a single individual.

(e) The analysis of the data involves interpretation of the meanings and functions of human actions and mainly takes the form of verbal descriptions and explanations, with quantification and statistical analysis playing a subordinate role at most.

Constructivism and human agency

For researching issues to do with people's experience I believe that a methodology is needed in which persons are seen as self regulating and self determining, as authors of their own actions to some degree actually and to a greater degree potentially. Such a methodology needs to take account of theoretical developments which help to explain - and to render operational - concepts of self regulation, autonomy and interactive adaptation.

The fundamental premise of constructivism is that we humans are self regulating organisms who live from the inside out. As a philosophical counterpoint to naive realism, constructivism suggests that we are proactive co-creators of the reality to which we respond. Underlying this concept is that perception is an active process in which we 'bring forth distinctions'. It is our idiosyncratic distinctions which form the structure of the world(s) which each of us inhabits.

We draw the boundaries, we shuffle the cards,

we make the distinctions. - James Keys (cited by Keeney, 1983)

Qualitative approaches or processes by which researchers explore how people perceive specific issues are based on a 'naturalistic' philosophy which recognises that reality is constructed and shaped by the human mind (Guba and Lincoln, 1989). In contrast to dominant rationalist or objectivist forms of inquiry, constructivism emphasises that people develop knowledge and beliefs which can be interpreted on the basis of their contribution to *viability* rather than to some external validity.

By viability is meant the ability to manage with what is available, an integral component of autonomy. von Glasersfeld (1988) suggests that viability is linked to 'goodness of fit' or adaptation to goals that lie within one's world of experience and also to the particular methods adopted to maintain these goals. In other words, the function of cognition is to actively build up knowledge which enables adaptation to the subject's organisation of the experiential world, not the discovery of an objective ontological reality. Viability may be cultural, social, personal or biological; our construing works within the context of what we are trying to do at any particular point of time.

This implies that the researcher cannot separate his or her own constructions of viability from the process of research. If this is accepted, the further implication is that inquiries are value-bound and context-bound because the knower and the known are interactive and inseparable. Hence objectivity is impossible, general laws that explain human and social behaviour are impossible and generalisations become possible only within time- and context-bound frameworks. A useful guiding thought for qualitative researchers is that 'If people define situations as real, they are real in their consequences'.

The term 'constructivist' is sometimes used interchangeably with 'naturalistic' and 'interpretive' in discussions of qualitative approaches to research. I suggest that 'constructivism' has distinctive features and that these have been nicely summarised by Anderson, Goolishan and Winderband (1986).

They cite a statement by Bertrand Russell:

Order, unity and continuity are human inventions, just as

truly as are catalogues and encyclopaedias.

Further, they propose that 'The philosophical constructivist's shift in thinking regarding the nature of reality shakes our beliefs in a notion of the world as composed of stable structures, with stable properties, existing independent of an observer. The world is no longer the world of the observed. It is now a world of observing systems, one in which the act of observation changes that which is observed.'

We now exist in a reality where there is no distinction or separation between the observed and the observer. It is a world characterised by a kaleidoscopic flow of events, patterns of relationships, of which we are all a part. Scarr (1985) calls this 'a cloud of correlated events'.

In summary, the constructivist view holds that all knowledge, including scientific fact, is a construction of the mind in the social domain.' For an elaboration of this wonderfully challenging and liberating premise you would do well to immerse yourself in Walter Truett Anderson's (1990) book 'Reality Isn't What It Used to Be' subtitled 'Theatrical Politics, Ready to Wear Religion, Global Myths, Primitive Chic, and Other Wonders of the Postmodern World.' If the following inscription from the book strikes a chord in you, then you'll find Anderson a compulsive read:

Pardon him, Theodotus: he is a barbarian,

and thinks that the customs of his tribe and

island are the laws of nature. (G.B.Shaw,

Caesar and Cleopatra)

Constructivism and cybernetics

The view of knowledge outlined above is closely linked to cybernetics, the study of self organising systems. Cybernetics tends to be conceived by many people as the study of self regulation in machines. The great potential of cybernetic thinking, according to von Glasersfeld, will be realised from on increased understanding of self regulation, autonomy and interactive adaptation in we *humans* rather than in objects such as robots and other machines.

As we will see, constructivism and an understanding of what language is are integral to thinking cybernetically about ourselves. The outcome of widespread 'properly considered' use could be progress on a path towards what von Glasersfeld (1985) says is 'the great potential of cybernetics.' He goes on 'cybernetics provides, for the first time in history, a rigorous theoretical basis for the achievement of dynamic equilibrium between individuals, groups and societies and other systems (ie, physical, ecological and meta-systems). Looking at the world today, one must conclude that this way of thinking, rather than fostering competition, may be the only way to maintain human life on this planet.'

von Glasersfeld says 'that [cybernetics] is a way of thinking, not a collection of facts, which involves forming concepts and relating concepts. Some of the concepts have been around for a long time, implicitly or explicitly. Self regulation and control, autonomy and communications, for example, are certainly not new words in ordinary language, but they have not figured in any science as central terms.'

Anderson (1990), in a section entitled 'Constructing a world, and making it fit' cites further ideas which build on to these central features of cybernetic thinking. One of these main ideas is that processes of cognition - ways in which our nervous systems make sense of experience - are processes of

'computing' our realities. They do not 'reflect' some agreed reality. In other words, knowledge has an adaptive function, not a representational one.

The person who conceptualised that our reality, our personal knowledge, is a computation rather than a representation is Heinz von Foerster. In his essay 'Ethics and second-order cybernetics' (1992) he talks about the fundamentals of cybernetic thinking - a process in which observers enter the universe of their observations. In other words cybernetics is based on looking not at 'things out there' but at looking itself. 'Cyberneticians, by entering their own domain, have to account for their own activity; cybernetics becomes cybernetics of cybernetics, or second-order cybernetics.'

This was made possible, he suggests, by advances in neurophysiology and neuropsychiatry; the kinds of advances created by Humberto Maturana. And von Foerster goes on to say that this way of looking at how the brain functions, from the viewpoint of 'inside the brain' (my paraphrase) 'represents a fundamental change in how we perceive of teaching, of learning, of the therapeutic process, of organisational management, and so on and so forth; and - I would say - of how we perceive relationships in our daily life.

Active participation in qualitative research

An epistemology which underpins collaborative research needs to take account of the concept of what knowledge is as outlined above if it is to enable researchers understand:

. how do people, who need to be viewed as active participants in enterprises, interact with each other in what can be called 'collaborative inquiry?' . what are the kinds of problems which are most appropriately addressed by collaborative research approaches? . how are problems defined in language? . what are the roles and responsibilities of researchers and participants in investigations as they collaborate to address mutually defined problems?

Human interacting in collaborative inquiry

The kind of research to which I refer is an approach based on enabling people who have experienced a particular 'phenomenon' to report this experience in a way that they find validating. In other words they are able to feel secure that the listeners accept that their reports are a valuable contribution to increasing general understanding of the phenomenon for the purpose of deciding what action could be taken to improve the situation.

What is evolving as the *sine qua non* of collaborative inquiry is called Collaborative or Participatory Action Research (PAR). Goff (1994) has a written a comprehensive commentary on the principles and process that underly this very rigorous approach to researching issues such as the meaning of family violence to young people.

A linguistic domain

Fell (1992) has articulated how he perceives that the 'problem' of the welfare of feedlot cattle arises in language. He elaborates Maturana's concept of a linguistic domain; a domain of semantic interactions in which participants - observers in a linguistic domain - interact through descriptions, and descriptions of descriptions.

Fell refers to this way of thinking as 'the new biology', a biology of cognition derived from the neurophysiological concepts of Humberto Maturana. Implications of this 'new biology' are that linguistically interacting systems are systems of meaning. 'Meaning' is constructed by individuals in a conversation. Further, communication is not information transfer, it is a triggering and shaping process of existing structures.

Concerns about the welfare of feedlot cattle will not, in Fell's view, be settled by 'scientific data.' Certainly such data must be collected, but they can at best be used in ongoing collaborative dialogue among parties who have different connotative meanings in their concerns about the welfare of feedlot cattle. This paper would be of great value if you are interested in how the ideas of Humberto Maturana can be used in highly operational ways to address any issue which has more to do with humans than with the apparent focus of concern.

How is interaction coordinated?

Underpinning the concept of collaborative inquiry is some means by which people's actions are coordinated. A seminal contribution to illumination on how this happens is that of Humberto Maturana and his concept of structural determinism (Maturana and Varela, 1980).

Central to this concept is that living systems behave as a function of how they are built, how they are arrayed and how they are put together. Living systems are autonomous, informationally closed and recursively organised. Synchronistic with this notion is Maturana's rejection of the concept of instructive interaction; that is, we cannot change - in an instructive way - any other system. It is the structure of a system that determines its behaviour; it is not the impact of outside forces. A system determines its response to a perturbation. A perturbation does not cause the response (Anderson, Goolishan and Winderband, 1986).

Implicit in these ideas is that individuals who become members of a social system do so by some form of coordination of their activities. Maturana proposes that the means by which coordination is coordinated is by language - this is what language is.

According to Luhmann (1982) construction of social systems arises through action; observed regularities emerge and evolve through collaborative and collective action. Essentially, social systems are systems that arise only in meaningful linguistic exchange. The focus is on collaborative action and discourse.

A masterly overview, in my opinion, of how human systems are language-generating and simultaneously meaning-generating is given by Anderson and Goolishan (1988). These authors review how their thinking as family therapists has led them to an understanding of human systems as being distinguished on the basis of linguistic and communicative markers rather than as social systems defined by social organisation (role and structure).

They suggest that, in the process of therapy, meaning and understanding are *socially and inter-subjectively constructed* (emphasis added). By inter-subjective, they refer to an evolving state of affairs in which two or more people agree (understand) that they are experiencing the same event in the same way. 'Meaning and understanding involve this inter-subjective experience. However, it is understood that agreement is fragile and continually open to re-negotiation and dispute. We do not arrive at or have meaning and understanding until we take communicative action, that is, engage in some meaning-generating discourse or dialogue within a system for which the communication has relevance.'

Anderson and Goolishan go on to elaborate the five main premises on which they base their capacity to work with people as therapists. I want to highlight two of these premises for their relevance to qualitative researchers working to construct collaborative conversations.

The role of researcher as skilled conversational artist

According to Anderson and Goolishan (1988) the role of the therapist is that of a highly skilled conversational artist - an architect of dialogue - whose expertise is in creating a space for and facilitating a dialogical conversation. The therapist is a participant-observer and a participant-manager of the therapeutic conversation.

Would you agree that the role of the qualitative researcher is essentially that of a skilled conversationalist?

While there are similarities between the practices of therapy and of qualitative research based on collaborative inquiry there are also a number of substantial differences. In the former, the focus is on coming to understand the nature of personal problems for which clients (individuals or families) have sought professional help and to establish ways in which clients feel able to move forward.

In collaborative research there may be many people engaged in the enterprise. As we shall see the focus is not on the resolution of personal problems; rather it is on coming to understand the nature of the suffering of people who have suffered a particular trauma at some stage of their lives. In turn this understanding can lead to new actions on a society scale.

As you may appreciate, the conduct of collaborative inquiry requires one or more 'skilled conversationalists' to coordinate the many conversations that are the essence of this form of research. Such persons, called facilitators, are the

key to creating the kind of relationships between participants in the enterprise in which all feel that they have a significant role to play - and that their views of the issue under consideration are treated as valid by others.

In order to be able to be such a facilitator a person needs, I suggest, to have a firm grasp of constructivist principles and the associated discipline of implementing these rigorously. There also needs to be a commitment to a professional and private 'pathway' (Goff, 1994) which is based on a vision of humanity in which great wisdom can be brought forth by creating a context in which this can be expressed. I commend Susan Goff's paper to you for an elaboration of the role of a facilitator which is clear, concise, powerful and passionate.

Roles and responsibilities of researchers and participants in collaborative action research

The second of Anderson and Goolishan' premises that I introduce to this dialogue is that 'any system in therapy is one that has coalesced around some "problem" - the relevance - and will be engaged in evolving language and meaning specific to itself, specific to its dis-solution around the "problem." In this sense, the therapy system is a system that is distinguished by "the problem" rather than a social structure that distinguishes "the problem." The therapeutic system is a problem-organising, problem-dis- solving system.'

Again, would you agree that there are close parallels between these concepts of what therapy is and what is qualitative research conducted in a constructivst mode?

This brings us to the ideas of Peter Reason and his colleagues on collaborative inquiry (Reason, 1988). This is one of a number of approaches to inquiry within social sciences which has been termed 'new paradigm' or 'post-positivist.'

As Reason (1992) says so succinctly, 'Orthodox inquiry methods as part of their rationale exclude the experimental human subjects from all thinking and decision making that generates, designs, manages and draws conclusions from the research. Such exclusion treats the subjects as less than self-determining persons, alienates them from the inquiry process and from the knowledge which is its outcome, and thus invalidates any claim the methods have to being a science of persons.'

'In essence, science is creative thinking and then careful thinking, with systematic observation and public examination of ideas and predictions against experience. We do not necessarily need clinical trials, quasi-experimental designs, questionnaire surveys or any particular methodology (*sic*) to do this. These are only ways which may or may not help us inquire clearly and carefully. Rather than depend on method, we can turn to the self directing person as the primary source of knowing, and thus the primary 'instrument' of inquiry, in what we have described as experiental and

cooperative inquiry. This means research *with* people, rather than *on* people (emphases added).'

Reason (1992) goes on to say that 'in traditional research, the roles of researcher and subject are mutually exclusive. The researcher contributes all the thinking that goes into the project, while the subject contributes the research action to be studied. In cooperative inquiry these mutually exclusive roles give way to a cooperative relationship based on bilateral initiative and control, so that all involved work together as co-researchers and co-subjects.

Ideally there is full reciprocity, with each person's agency fundamentally honoured in both the exchange of ideas and in the action. There can be no other base for researching the human condition from the standpoint of the person as the experiencing agent. We should note that full reciprocity does not necessarily mean that all those involved in the inquiry enterprise contribute in identical ways. In an inquiry group, as in any human group, people will take different roles, and there will be qualitative differences in contribution. While in a "pure" or ideal form of cooperative inquiry full consensus will be reached on all decisions, this may not always be practical. At a minimum everyone needs to be initiated into the inquiry process and to give their free and informed assent to all decisions about process and outcome.'

Implications for constructivist qualitative research

Going back to Anderson and Goolishan's (1988) basic premises we may come to see that one central role of qualitative researchers is to work with communities whose membership is defined by a common concern for particular articulated 'problems'.

To reiterate, language defines the components (members) of systems. Problem determined systems are action systems that are constructed out of a network of communicating persons around those issues that are for them a problem. Problems, in this view, do not derive from the requirements of superordinate systems; they emerge from the local collaborative, collective and communicated decision that there is a problem.

The implication is that qualitative researchers work interact collaboratively with members of the 'problem determined system.' Whose responsibility is it then to define what the problem is? The problems tackled should be 'important' as agreed through collaborative conversation. This means that they should be associated with significant suffering or disability, or consume substantial resources such as time, facilities, services or money. There is no point studying unimportant questions (White, 1991).

A constructivist methodology and Personal Construct Theory

Personal Construct Theory (Kelly, 1955, 1991) may be considered a progenitor of current psychological constructivism. How do the ideas expressed above fit with this theory? Again we are indebted to Anderson, Goolishan and Winderband (1986) for helping us perceive connections. As

they say 'This language systems view extends George Kelly's theory of personal constructs . In general, Kelly believed that how a person makes sense of the world is a phenomenon that is reciprocally influenced by self and others in his or her social domain.

For Kelly, a personal construct was something devised by persons for their own lively purposes. A construct was a reference axis that established a reference axis for the various events we encounter. This view of a construct as a reference axis, as opposed to a representation of something - an objective reality, suggests that human behaviour can be understood in the context of communicated coordinations.'

I suggest that Kelly would have agreed wholeheartedly with the 'new paradigm' approach of working with people in ways which engage their intellect through establishing relationships, communicated meaning and discourse to create an experience in what Gergen (1982) calls 'grass roots epistemology.'

I also propose that an acquaintance with the essential features of Personal Construct Theory - oriented primarily at understanding the actions of individuals - can lead to deeper personal understanding of the nature and power of a constructivist epistemology for collaborative inquiry.

A reflection and conclusion

This paper has been my attempt to indicate how bringing together a set of ideas about the biology of cognition and associated concepts of second order cybernetics can form a powerful theoretical framework for the conduct of collaborative inquiry.

Guba and Lincoln (1989 and 1990) have articulated a version of constructivism which, in my opinion, is a useful introduction to postmodern perspectives of collaborative inquiry. I have suggested that the ideas of Maturana, von Foerster, von Glasersfeld and Kelly can be incorporated into an expanded epistemology. To do so is not any easy task and requires a fair amount of hard thinking.

Would you expect to take in great art at a glance? Would you agree that great ideas - expressed in manifold ways - require effort of understanding and change in *ourselves*?

von Glasersfeld (1988) says that coming to understand constructivism 'means to relinquish the mainstays of an inveterate conceptual network. It means getting out of habitual pathways and reconceptualising a different rational view of the world. In short, it involves a good deal of thinking and, as Bertrand Russell once said, people would rather die than think, and they do.'

I suggest that the test of the value and usefulness of tackling this task can be assessed by what the ideas contribute to our personal ways of making sense of our earthly experience. It seems that we have two basic choices. One is to

come to accept some given authority on how to structure our lives in order to gain a sense of order. Alternatively we learn to live without access to objective truths, knowledge and authority, reasonably (sic) secure in the thought that all we can know of the world and of ourselves in it are the byproducts of ways of getting on with one another (Gergen, 1992).

I believe that the latter offers more prospect of viability as a researcher interested in how others - and ourselves - create meaning through social interaction. This personal belief stems at least in part from my experience of participation in innumerable conversations, the outcome of which - on reflection - has been the wellspring of my personal knowledge, understanding and identity. This does not mean that, for example, Humberto Maturana's premise that the dynamics of consciousness and mind are in the realm of social coupling, not in the brain, is 'true.' It does mean that when I adopt what he proposes as the process of interactive adaptation in the course of living, 'as if' it's true, the connections I make with people often have wonderful outcomes.

Does this have a 'goodness of fit' with your experience, *viz* do your critical reflections indicate that your 'realities' arise from conversations you engage in, including those with yourself?

What do you consider are the implications of this way of thinking about the source of our personal knowledge? I suggest that one crucial implication is that we who engage consciously in enterprises which require cooperation between people - are there any other kinds? - have an ethical obligation to keep the principles of constructivism at the forefront of our actions.

Goff (1994) writes that collaborative enterprises, firmly grounded in principles of constructivism, 'are our only sustainable way forward, as a singular people and a race, by calling forth our heritage of profound wisdom, rekindling our capacity for love and creativity, and reinventing our definition of humanity within our ecological and spiritual realms. I have learned again, through this project, that within this form of work we now have the tools to make the re-invention of humanity entirely possible. Our challenge is now to realise our ability to bring it to life if humanity, and the earth with us, is to have any sort of future worth living.'

I wonder if you find that the ideas in this paper extend usefully what you know already about a constructivist epistemology for the conduct of collaborative enterprises - research and other. I wonder too if the ideas will inspire you to re-search and re-discover the excitement and joy of collaborative ventures, illuminated on our journey of self knowledge with the flame ignited by Humberto Maturana.

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