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■ Research Paper

The Researcher of Human Systems is Both Choreographer and Chorographer

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The paper will refer to research work that illustrates the researcher as chorographer (one practised in the art of systematic description of regions) and choreographer (one practised in the design of dance arrangements) of the emotions. The authors experienced this transformation when they developed and tested a conversational model of learning and change based on the biological systems work of Chilean scientist Humberto Maturana. Hawkesbury Agricultural College (which became part of the University of Western Sydney in 1989) was a fertile field for research and consulting that understood learning as change taking place in a relational space, over time, and as a consequence of engagements shaped by the participants' emotions. The use of participatory and collaborative methods to bring about change demanded an explanatory system that located the usefulness of these practices in what was understood as the biology of living systems and cognitive science. Copyright © 2005 John Wiley & Sons, Ltd.

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HAWKESBURY: THE CONVERSATIONAL MODEL

This paper is a reflection on 20 years of collaboration by the authors which had its origins at Hawkesbury. We arrived at the concept of a human system as a network of conversations via a reflection on the actual experience of being part of just such a network—i.e. Hawkesbury. When the same concept was subsequently recognized in a text it was one of those 'Of course!' experiences. The

circumstances which gave rise to this network of conversations were unusual for many reasons, the most important of which were: a new Head of School (Richard Bawden) with unlimited enthusiasm for a systemic way-of-knowing and acting in the world; a cohort of like-minded staff who saw that the linking of a cognitive paradigm with an experiential learning paradigm would be a 'difference that would make a difference'; and an emotional orientation that found expression in phrases like: *We have to do this together; We have no choice but to learn by doing.* What we didn't have was an abundance of resources, especially not physical (e.g. flat—floor teaching spaces) or financial resources. The realization that quickly surfaced was that the most critical resource was

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the *relational space* created by the willingness to work together.¹ The emotional 'willingness' was an observable characteristic, both by insiders and outsiders, and so deserves a much closer exploration.

The School of Agriculture (the Faculty of Agriculture and Rural Development as it became in 1983), the dynamic relational network of the physical, emotional and intellectual, itself evolved for us as a clearly defined system of interest constituted by its distinctive network of conversations. The conversations were characterized by the desire to create a relational space informed by the desire to *make manifest* relationships—to show how complex and even contradictory elements (especially the people involved) are fluidly held together. This same orientation to 'getting the job done' encompassed the students and their learning goals; it encompassed the faculty's engagement with the broader university, and extended to Australian agriculture and rural communities. This particular aspect of the 'Hawkesbury experience', namely the conversational model of learning and change, has been systematically explored by the authors in a series of research projects both individually and collaboratively over the past 20 years. We report two case studies of our experiences here.

CONVERSATION AS A SYSTEM FOR LEARNING

Learning has traditionally been understood as the acquisition of skills and knowledge that are deemed to be useful in a particular profession or community. The notion that learning was embodied change that took place over time and in the relational space created by conversation shifted the emphasis from the targeted outcome (skills and knowledge) to the process—a particular manner of engagement. The shift of emphasis was really a radical change of attitude and behaviour. There are many different modes of communication but only one that merits the title 'conversation'. Each mode of communication can

be usefully expressed as a metaphor, and underpinning each metaphor is an epistemology that has implications for understanding and action. In other words, each presents a theory of communication.

Krippendorff's (1993) summary of the six most pervasive metaphors of communication in everyday life shows how the conversational model stands apart from all the rest because of a number of key features or entailments. As members of the faculty progressively designed conversational systems, and this as practice quickly extended to the students themselves, their perceptions and actions began to experience a corresponding change. Krippendorff's six metaphors were as follows: the container metaphor—discrete messages are exchanged that contain information, feelings, etc.; the conduit metaphor—bodies of information flow in channels; the control metaphor—communication instructs/causes specified outcomes; the transmission metaphor—messages are coded and decoded; the war metaphor—arguments are won or lost; and finally, the dance-ritual metaphor—in which the doing of the action is what matters. He suggested three entailments of the dance-ritual metaphor; firstly, that it highlights *continuity and repetitiveness*. 'The purpose of being in conversation is to keep it going' (Krippendorff, 1993). The second entailment is that it 'makes communication a *cooperative and communal activity*'; and thirdly, that it 'is both individually satisfying to all participants (and at no one's expense) and *leaves something recognizable behind*' (italics in the original text).

The predominant metaphors/models of communication have entailments that imply that the meaning is in the message, that messages can be instructive or influential, and that the goal of communication is to arrive at a predetermined outcome. In education, as in applied agriculture and rural development, the dominant belief is that knowledge is transferable. The effective educator/communicator could 'get under the skin' of the other or package the ideas into words so 'persuasively' that information would be transferred. Underlying this conviction is the root metaphor alternatively imagined as the hypodermic or a conduit (see Ison and Russell,

¹Elsewhere this has been described as 'relational capital'; see SLIM (2004).

2000b). Academic staff in the faculty increasingly began to inform their approach to learning, and to orient their engagements with students, by consciously attending to the image of conversation and less to that of conduit or hypodermic.

RESEARCH AS CHOROGRAPHY AND CHOREOGRAPHY

What follows is an abbreviated case study of how the authors learnt their way in systems thinking and systems change. A three-stage research project took us from the initial appraisal of a rural community through to an identification of research priorities to the formation of a partnership for change. Working from the premise that a network of conversations creates a system and that if these conversations are problematic then we have a problem-generated system, we instituted a series of interviews that would systematically describe the nature of the problematic conversations. The presenting problem was that the wool producers, the scientists and those that work at the communication interface (agricultural extension officers) were not getting their respective expectations met: the producers were not receiving useful research, the scientists were feeling that their research was not being utilized and the professional communicators felt that they had an impossible job. The systematic description of this problematic communication system (a function that we have named as that of the 'chorographer') led to the judgement that this was indeed a communication system—one based on a mixture of control and transmission metaphors—and not a conversation system—one based on a dance-ritual metaphor. Both the theory and the consequent practice were inadequate for the task at hand (see Russell *et al.*, 1989).

We now had a live question directing our thinking. Information, knowledge, 'improved practices', carefully derived research findings from the laboratory and the field—why did they not constitute sought-after resources? The answer, once again, came from a systematic description of, and reflection on, conversations with the so-called, and inappropriately called, end-users, the rural producers. The very

label 'end-user' positions the producer only at the receiving end of the supposed knowledge transfer sequence: research → knowledge → transfer → adoption → diffusion. The logic of this traditional thinking had its root in the conviction that decision making was a totally rational process, with the weight of empirical evidence being the sole indicator of what knowledge or practice would be accepted and adopted. Our data told us otherwise. Rational argument was important but an emotional variable was also shaping decision making. In the world of agricultural production, as in any other applied field, something is a resource only if the producer wanted it to be (see Ison and Russell, 2000a). The name we gave to this generic emotional element was 'enthusiasm'. It was when our research collaborators consistently told us that when it came to decision making that affected key areas of their production systems, emotions and feelings were not optional extras, that we saw the need to have emotions as a crucial element of a change/learning model. It was at this stage that we came to see our task, as academics and researchers, as systems designers and choreographers of networks of conversations. Recent work in neurosciences (see Damasio, 1994, 2000, 2003) has validated these findings derived from interview data.

The final phase of this research trilogy (appraisal, collaboration, model development) was to engage in more systematic conversations with rural producers that would be consciously shaped by the emotion of enthusiasm. The ultimate aim of doing this was to develop a systemic learning and research approach (the enthusiasm methodology) to Australian rural R&D that would be informed by the dance-ritual metaphor. One important outcome was the recognition that a consensus position around agreed action is a lowest common denominator position in emotional terms. Our experience was that meaningful action was only ever taken by those committing to the consensus if they held the consensus position in the first place. The price of consensus, whether achieved through goal-seeking behaviour combined with imposed targets in a managerialist climate, or the explicit or implicit adherence to the predominant

metaphors for communication, is the loss of an emotional commitment to action. We suggest that this finding has major implications for organizational life. A full description of this work can be found in Ison and Russell (2000b).

A CONVERSATION WITH MATURANA

Arriving at a satisfying explanation is very much what drives us as academics and researchers. What was happening within the Faculty and with the students was successful as judged by outcome measures but it left begging the question of an adequate explanation that would account for the positive achievements. What happened in this case is what often happens, in that there develops a reciprocal relationship linking experience and explanation; one mutually shapes the other. In the mid 1980s, Humberto Maturana first visited Australia and his three-day seminar was attended by a number of staff. The key themes of his integrated presentation were: an explication of a biology of cognition; an explanation of how living systems were biologically autonomous but at the same time coupled to their environment; that as living systems we are closed to information; and that the emotion, what he called 'love', had been, and still was, the emotion that predominantly shaped our manner of living as human beings (see Maturana and Varela, 1987).² Lights flashed! Here was a biological explanation, one far more convincing for our scientific minds than a philosophical or sociological explanation that was close to perfect! Maturana offered explanations based on his own research on the biology of cognition that addressed the biological roots of learning and change and that traced the autonomy of the living being back to its very roots, to cellular autopoiesis and the development of the nervous system. In Maturana's own words: *the explanation was adequate because it was satisfying*.

An interesting outcome of the ongoing conversation between the authors and Maturana

(see Russell and Ison, 2004) was that it was very particular. The conceptual framework offered by Maturana and that proved so satisfying to the authors did not especially resonate with other members of the faculty. While the experiences were shared the explanation was not. The gradual understanding as to why this was the case came from our reflections on the research outcomes. As a starting point we were drawn to situations that had been named as problems. We brought with us a strong preference for using a methodology that would engage the participants (those naming the situation as a problem) in exploring and eventually acting to improve the situation. This pragmatic orientation to research, otherwise known as 'action research', invariably achieved useful results. As researchers, however, we wanted to consider the biological circumstances that permitted this transition from 'problem' to 'improvement'. This was not everyone's desire; it was particularly ours! Maturana's biology of cognition presented convincing empirical evidence that living systems were closed to information. We take this to mean that a human being could not be informed in any predetermined manner by another's communication. What we, as humans, could do, and actually do, is converse together. Over time, if the conversation is satisfying, change happens at a biological level: the person has learned to be in the world differently and this difference is expressed as an 'improvement'. What has not happened is that the person-to-person communication has resulted in the achievement of a predetermined and mutually agreed-upon goal. The only, albeit critical, goal is a commitment to stay in the conversation as long as it is a satisfying experience.

Our research work had demonstrated that the emotion of enthusiasm could be usefully used as both an explanation of the transition from problem to improvement and as the underpinning of a methodology for organizational learning and change. Maturana has recently (see Maturana, 2001) been more explicit in generalizing his conversational model to cover negative as well as positive outcomes of conversations. If a network of conversations is shaped by a predominance of the emotion of

²Maturana's explanation of love is based in biology; he claims that one lives in the emotion of love when the other arises as a legitimate other in our interactions with them. The other can be oneself, other humans, other species and the environment we inhabit.

fear and/or the desire for control, then the learning and change is felt as oppression and a desire to remove yourself from the situation which would likely conflict with other desires (e.g. professional advancement, material gain). The fundamental principle is that the very experience of conversation is determined by a particular emotion. The actual living (doing) of each relationship (network of conversations) determines the outcome of the work.

The implication flowing from the principle that each conversation is shaped by a particular emotion is that we as humans are capable of being aware of exactly which emotion is being enacted at any moment and thus are free to maintain or change the nature of the conversation, and of the relationship in which the conversation is embedded, by modifying the emotion. The locus of change is also the locus of responsibility.³ The increased awareness of the role that emotions play in our lives has more to do with the greater knowledge of how our memory and language shape the substance of our lives than emotion in any raw form. With language, memory and imagination we generate our experience of consciousness and self, thus recognizing that we can substitute one emotional stimulus with another. We do this by telling stories. Daniel Dennett described this as 'Our fundamental tactic of self-protection, self-control, and self-definition [which] is not spinning webs or building dams, but telling stories, and more particularly concocting and controlling the story we tell others—and ourselves—about who we are' (Dennett, 1991, p. 418). It remains a matter of alarm that educational institutions are

³The proposition that our experience and subsequent action are shaped by a particular emotion is not a new one in experimental psychology. Beginning in the late 1800s William James (1890/1950) suggested that 'my experience is what I agree to attend to' (p. 402). Recent research by Arne Öhman and his colleagues (see Öhman, 1997, for a review of the relevant experimental studies) clearly shows how attention is controlled by the currently activated emotional system, that emotion appears to drive attention, and that these emotions are assumed to be functionally shaped by evolution. Öhman presents evidence that emotions, particularly those of fear and anxiety, can be aroused by events that are 'outside the spotlight of conscious attention' (p. 265). The finding that emotional responding can be elicited after only a pre-attentive, automatic analysis of the stimulus implying an absence of conscious recognition is particularly relevant to any model of conversational behaviour.

so slow to recognize this emotion–narrative axis and its fundamental role in learning and change.

THE ROLE OF ANALYST/CHOROGRAPHER

The theoretical underpinnings and the practical outcomes of our work have laid the groundwork for the dynamic description of the relational networks that constitute organizational life. The term 'chorographer' has been traditionally used for the professional skilled in the systematic description of geographical regions. Insight into the role of emotions, as the shapers of human experience, suggests an extension of this term to cover the mapping of relationships showing how the display of each relationship is governed by a dominant emotion. The map constitutes a visual display of the consequence of these relationships/emotions on the day-to-day life of an organization.

Our second case study illustrates how a narrative mapping of emotions can constitute a vehicle for change.⁴ The task was to map the status of the leadership team, and its ongoing relationship with the workforce, over an 18-month period during which the leadership team was receiving systematic interventions designed to improve their leadership performance. By means of conversations with participants in the leadership–worker system, focusing on past, present and anticipated future experiences, relational maps were drawn up representing the status quo for three periods, each 6 months apart. The immediate aim of the researchers in generating the conversations was to elicit the particular emotions that shaped the array of relationships being experienced in the leadership–worker system. A novel approach to the mapping was to convey the dynamic nature of the flow of emotions via the construction of composite narratives: a series of three for the leadership team representing the relational system over time and a similar series of three for the workforce (see Jankelson, 2004, for additional

⁴This project undertaken by David Russell was a consulting assignment with staff of a production plant of an international oil company.

details regarding this project).⁵ The use of narratives with strong metaphorical content as research data was judged to be a natural outcome of using conversations as (1) sources of data and (2) sources of desired action (action research). Related research had made extensive use of metaphor as the major example of a linguistic framing or prototype that influences decision making (McClintock *et al.*, 2003, 2004).⁶

The client organization was so taken by the usefulness of the dynamic mapping of the emotions, via the narratives, that it asked for the various narrative scenarios to be acted out in front of the maximum number of leaders and workers given the constraints of shift work and a 24-hour production cycle. The connection between the emotion and the consequent experience had been made.

THE ROLE OF DESIGNER/ CHOREOGRAPHER

The extension of the role of choreographer to that of choreographer, from mapping to active intervention in an organization, is conceptually straightforward. The solid (theoretical) ground on which we stand asserts that change takes place in the relational space including the space of one's relationship with oneself. In this latter case the researcher and the researched is the same and in the process one is open to self-change.

The authors proposed a procedure designed to engage with the desires, wishes, fears and interests (the full gamut of emotions) of the participants (who could be oneself) with the aim of achieving an experience of systematic reflection by which there is either (i) a change in the emotion shaping a particular behaviour or set of

behaviours, or (ii) there is maintenance of that behaviour because there has been no change in the emotion (Russell and Ison, 2004). Having a 'choice' is understood as choosing between alternative emotions.

What follows is a step-by-step process for using conversation as a means of systemic change:

- (1) *Foster a relational milieu at every level of the designated system of interest.* The relational space is built on the proposition that the two parties will engage in a sequence of conversations with the only intended outcome being the achievement of mutually satisfying experiences through the act of conversing.
- (2) *Articulate the agreed focus for conversational exchange.* An example might be the experience of leadership.
- (3) *Invite the telling of experience.* The invitation to tell of one's experience *vis-à-vis* a specific set of relationships, in accord with the agreed focus of the exchange, might well encompass the past, present and/or the anticipated future. The initiator is open to offering his/her reflections (especially naming the emotion that is governing the immediate relationship) on the current experience.
- (4) *Determine the dominant metaphors/images informing the conversation.* From the above account the dominant metaphors and image schemas are identified.
- (5) *Ascribe determining emotions to the imaginative structures (metaphors; organizing images).* Assisting a participant to become aware of a determining emotion is clearly a crucial aspect of this step.⁷
- (6) *Dynamically link emotions and metaphorical elements into discrete narratives that serve an explanatory function.* A narrative 'plot' constitutes a turning point in as much as certain relational events lead to certain other events.
- (7) *Communicate the constructed narratives back to the participants.* This reflection acts as a

⁵Constructing narratives to describe organizational life and the role of knowledge as a conversation are not new concepts. Barbara Czarniawska, in her book *Narrating the Organization: Dramas of Institutional Identity*, emphasizes the place of knowledge in organizational transformation but fails to recognize the crucial part played by the emotional life in shaping both conversations and narratives.

⁶Lakoff and Johnson (1999) link the findings of cognitive science since the mid 1970s with their own work in language and Western philosophy. Their central tenet is that rationality is body based and imaginative, with metaphor being the dominant expression in language.

⁷Antonio Damasio in his recent book *The Feeling of What Happens: Body, Emotion and the Making of Consciousness*, skilfully elaborates the importance of 'understanding the very different biological impact of three distinct although closely related phenomena: an emotion, the feeling of that emotion, and knowing that we have a feeling of that emotion' (Damasio, 2000, p. 8).

trigger (a further invitation) to keep the conversation going.

In situations of organizational change where the designated system is made up of groupings of individuals experiencing similar relational dynamics then the narratives can relatively easily be designed (given the experience of the oil company's production plant) as composite narratives representing the emotional characteristics of the whole group.

The sequence begins over again and finishes when either party considers that stasis is preferable to further change. Change would be recognized by the participants saying and doing different things. While the difference could not have been specified prior to the initial conversations the outcome is judged to be of pragmatic use and to be personally satisfying.

CONCLUSION

What we have offered is a multilayered model of reflection—self-reflection through to system-level reflection—in which physical and financial resources are important (i.e. not trivial) but where the leverage for change, the change that makes a difference to the network of relationships that constitute the system, is emotional change. By evoking the metaphors of researcher as choreographer and choreographer we point to the transformation between being systemic and systematic within one's praxis as it unfolds in daily life (Armson and Ison, 2001). We suggest these distinctions are relevant beyond researching (*sensu stricto*), for example as a way of thinking about the shift in 'project management' from a systematic life-cycle approach to one seen as engaging in an ongoing flux of 'managing' (Winter and Checkland, 2003).

We are inviting the reader (our invitation is offered with considerable enthusiasm) to stand back from the relational space dominated by the desire to establish and work towards a predetermined outcome, no matter how positively appraised (desirable) that outcome might be, and to 'trust'—to trust in the relational space that has been shaped by the emotion to work with the 'other' as a fully autonomous other who cannot

be influenced in any pre-specified manner. We invite the reader to direct their focus away from any conceived external 'reality' and to dance the dance played out in the theatre of the body⁸ in which the dance is shaped by the emotion of love, an emotion that has no desire to have you move according to any particular rhythm.

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⁸Damasio speaks of 'different emotions . . . [being] induced in the brain and played out in the theatre of the body' (Damasio, 2000, p. 8).

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