2 Supporting reflective learning: towards a reflexive theory of form

Philip J. Boxer, London Graduate School of Business Studies, London, UK

Introduction

This chapter is written on my premise that man is a conscious intentional being, capable of original thought. Such thought arises from his attempts to give expression to his intentionality: an expression which takes on an external form. The question addressed is how internal intention is related to external form.

Much of the experience underlying the ideas in this chapter was gained while directing the Management Decision Making Project (Hooper, 1977). This project was set up to produce learning techniques capable of supporting the intuitive, qualitative and judgmental processes apparent in managerial problem solving. Loosely referred to as judgement, such processes became most apparent when non-routine decisions had to be made and the manager was involved in breaking new ground, or when the decisions to be made were themselves hard to define because of the ambiguity experienced by the manager in the form of decisions needed. The term 'object-referenced' knowing was coined to distinguish rational analytic processes, based on reference to phenomena external to the problem solver, from the 'subject-referenced' knowing underlying judgmental processes, in which the quality of the problem-solver's own past experience was referenced (Boxer, 1978). This distinction was made because of difficulties encountered in using 'objective' methods of analysis for supporting judgmental processes.

For knowing to become objective, it had at least to be object-referenced; it had also to become inter-subjectively agreed (Popper, 1959). To become inter-subjectively agreed, such knowing had to be capable of expression, which demanded the use of a medium for its representation. The more subject-referenced the knowing being expressed, the more the use of the medium was influenced by the particular quality of the manager's experience. When there was little disagreement about the content of a problem, then it was likely that objective methods of analysis could contain the problem. As disagreement over content increased, when judgement was needed, so the need to be able to deal explicitly with the differences between individual interpretations increased (Einhorn, Hogarth and Klempner, 1977). These differences in interpretation were differences in subject-referenced knowing. The process of objectifying knowing necessitated collapsing these very differences which the managers felt a need to express. Viewing the expression of subject-referenced knowing as emanating from a different source of knowing therefore led to a limitation on the possible uses of objective analysis. It also meant that the choice of medium for expressing subject-referenced knowing would affect the manager's ability to communicate judgement.

Reflective learning was the name given to the process which developed a capability for exercising judgement. The aim, therefore, in developing a theory which could relate internal intention to external form was to express my understanding of the judgmental process and thereby to guide the process of producing techniques capable of supporting reflective learning.

Representational Systems

Central to the whole reflective process is the idea that *consciousness itself is a representational system,* and that self-consciousness is a self-referential form of consciousness. The medium through which the manager can express his consciousness must be *existentially articulated:* its substrate (distinctions which can be made within the medium) must be capable of being interrelated in varying forms (particular patterns of interrelated substance) in ways not determined by the medium itself. Thus, for example, the movements of a ballet dancer, the sounds of a singer, the marks of a draughtsman and the contents of a chef's larder are existentially articulated; all of them can be used as media to express the consciousness of creative individuals. The manager need be no different: he can express himself through the systems of production he co-ordinates.

The individual interacts with his 'reality' through his own being, which he experiences as some combination of visual, auditory, kinaesthetic and olfactory modes of experiencing. His own being is existentially articulated, but what makes it a representational system is his relationship to it: he can make referential connections between his consciousness and his being as a medium. Such choices are expressions of his consciousness: his relationship with his being as a medium is *referentially articulated.* Just as this physical medium can have varying degrees of existential articulation (compare your body with that of a yogi), so also has consciousness varying degrees of referential articulation. *The experience of varying levels of consciousness is the experience of varying degrees of referential articulation.*

Consciousness and Continuity

Consciousness, when viewed as a product of evolution (Teilhard de Chardin, 1959; Jaynes, 1976), has provided man with a means of dealing with realities which are not present in the 'here and now'. It is present in every medium of experiencing, and has been expressed in its highest forms in drama, music, painting and cooking, to name just a few. Its commonest form of expression, however, is probably language. Language is a rich system of signifiers (Guiraud, 1975): the same collection of words can be put together in different forms, different words can be used within the same form, and as a medium it is self-referential. In common with all other media, however, it suffers from being constrained by its existence in space and time: it is doubly articulated and thus can only represent 'that which is referred to' and 'the relatedness between this and that'. This property, however, combined with language's capacity for referring back on itself, makes it ideally suited to the representation of our experience of space and time, which after all is space and time - or is it?

The structure of language is syntagmatic. The experience of metaphor and analogy suggests that there is a further degree of articulation in our consciousness which manifests itself in our use of language and is reflected in the feeling of appropriateness of syntagmatic form. The structure implicit in this feeling of appropriateness of syntagmatic structure is paradigmatic structure, and the experience of inappropriateness is the experience of over-determination. Syntagma are therefore elements of referential choice embedded in syntagmatic structures which are themselves elements of referential choice embedded in paradigmatic structures: three levels of embeddedness of structure, only two of which can be expressed in language because of its limited double articulation. The third level of articulation is therefore

implicit in our relationship to the medium: the relationship between signifier and signified (Hawkes, 1977).

Where a manager is not conscious of the choice of syntagma in relation to a particular situation, he will be unable to relate the situation to his past experience and equally will be unable to predict accurately what will happen in the future (Bieri, 1955). When conscious of choice of syntagma, he will be able to predict, but will tend to ignore minor invalidations of his predictions. When faced with major invalidations, however, he will be forced to go through a major reconstruction of the past experience embodied in syntagmatic structure (Levy, 1956). Consciousness of the choice of syntagmatic structure would, however, enable the individual to incorporate invalidations of syntagmatic structure by enabling the manager to develop new ways of representing his reality. He would have two obstacles to achieving this level of consciousness, however: first, the fact that language would not enable him to express explicitly to others paradigmatic forms of knowing representing those choices; and second, the fact that the over-determining properties of language structure would unconsciously restrict his ability to recognise the existence of choice of syntagmatic structure in the first place. If he did achieve this third level of consciousness, however, the form of knowing which he would be trying to express would be subject-referenced knowing.

Art has always been a process through which the individual could escape over-determination and become self-determining (Marcuse, 1978). It has done this by using the representational system to represent the process of representation: how the artist experiences his 'reality'. For the manager, however, there can be no such reflexivity, for, unlike the artist, the ends of the system of which he is a part can only coincidentally be the means of his self-expression. For the manager, therefore, unlike the artist, there is a conflict between the object-referenced nature of the actions demanded of him by the organisation and the subject-referenced knowing in his actions - their quality. His acceptance of the over-determining influence of the organisation will be most likely to disable his own consciousness at the third level, thus leading to the necessity for periodic major reconstructions and the consequential experience of discontinuity. My intention in pursuing the relationship between internal intention and external form is to find ways of reversing or avoiding this disablement.

Towards a Reflexive Theory of Form

This chapter is itself a representation which uses a medium which is only doubly articulated: it can only represent two levels of referential choice at once. In order to make explicit the connections between more than two levels, therefore, the language that the paper uses has to refer to itself. To be reflexive, the language has both to represent itself and to be capable of representing 'reality'. Each pair of statements therefore corresponds to a level of referential articulation:

(1) Every act is a distinction which has substance. Naming is a conscious act.

(2) Form is the experience of related distinctions. Language has form.

(3) Purpose is the experience of related form. Distinction and form can be named.

(4) Self-consciousness is the experience of related form in the actions of self. A self-conscious act expresses intention.

This chapter therefore is an act, and as an act has substance. An act is also a reference to 'reality': a distinction which has substance in that it exists at a point in space and time. The substance of a distinction will depend on the mode of experiencing: visual, auditory, kinaesthetic or olfactory. An individual will experience consciousness if he experiences choice in how he refers to 'reality'. The degree to which he experiences choice in how he chooses in each mode will define the degree to which he is conscious in that mode.

The reader experiencing the words on this paper as related is experiencing form. The words both are distinctions and also have substance. Equally, the manager experiencing relatedness in events is experiencing form. The relatedness may be experienced as no more than a product of the manager's position in space and time. When the experience of relatedness becomes attached to the distinctions rather than the experiencer, then the experience becomes object-referenced and detached from the experiencer. The use of language is, therefore, one way of making object-referenced the subject-referenced experience of form, as is also painting, music, and so on.

Language has form which can be experienced, as has 'reality'. Such form can be named, and so language can be used recursively to refer to higher levels of referential choice. The higher levels of choice cannot be referenced at the same time as the lower levels, however, because the articulation of the medium is insufficient. Thus, although the process of experiencing related form can be named as the experience of purpose, the process itself cannot be represented. To do this would require a representational medium which was trebly articulated. Given such a medium, however, then through it the experience of related form could be expressed for others to experience.

As soon as the individual experiences relatedness in the form of his actions and is able to experience that relatedness in relation to himself, he becomes self-conscious. Such self-consciousness is the individual's experience of choice over how he experiences himself, since implicit in the representation of relatedness in the form of his actions is the possibility of exercising choice between alternative forms of experiencing. The expression of choice in the relatedness of form in an individual's actions by that individual is intentionality. (The source of intentionality, however, can still be located by the individual outside or inside himself, depending on whether or not he accepts responsibility for those choices. Where the individual locates this source determines whether he experiences himself as extra- or intra-dependent (Reed, 1978).)

Subject-referenced knowing, therefore, is the subject's experience of relatedness in the form of his actions. Its expression through a representational medium would make that relatedness object-referenceable. Such a representational medium would have to be trebly articulated, but would enable the individual to explore the source of his intentionality in relation to the substance of his actions.

Core Structure

My intention is not to pursue the implications for the manager of how subject-referenced knowing interacts with object-referenced knowing when he is not conscious at the third level of referential choice. Rather it is to see what evidence there is for this level. Language is unable to represent this third level directly, because it is only doubly articulated. In order to understand what this third level might be as it is experienced by the manager, therefore, it is necessary to turn to psychology to see whether its presence can be detected in the manager's implicit use of language. Kelly (1955) developed the idea that mind mediated between the individual's inner and outer reality

by enabling him to construe the replications of events. Kelly's theory was therefore a representation of mind, which he considered was itself a representational system.

Kelly thought that there were three kinds of construing: pre-emptive, constellatory and propositional. Pre-emptive construing corresponded to syntagma: acts which were distinctions with substance. Constellatory and propositional construing were distinguished for him by the fact that whereas the former excluded to some degree the 'replications of events' from other construing, propositional construing did not. The extension to Kelly's theory proposed here is to view his logical distinctions between different forms of second-level syntagmatic construing as instead a structural distinction between the manifestations of second-level syntagmatic constellatory structure and third-level paradigmatic propositional structure. This would mean that Kelly's logical distinction would follow naturally from the form a trebly articulated consciousness would take when expressed in a representational medium which was only doubly articulated. Kelly's experience of core structure would correspond, therefore, to the manifestation of the third level of paradigmatic structure: 'those constructs which govern the individual's maintenance processes, i.e. those by which he maintains his identity and existence.' The problem which arises in evaluating this extension comes, first, from the difficulty of using objective methods of analysis in identifying this third level of structure, and second, from the fact that it cannot by definition be directly accessible through language.

Insights into the functioning of core structure can be gained, however, through the individual's use of language. When the individual expresses syntagmatic structures, he uses two kinds of universal: categorising universals and characterising universals (Strawson, 1959). Categorising universals correspond exactly to the functioning of constellatory construing through their capacity to define by exclusion. Characterising universals, however, carry an implicit comparative function corresponding to the functioning of propositional construing. The characterising universal takes the form of an adjective pair, and the individual's use of the pair is asymmetric, the 'unmarked' one being used more frequently than the 'marked' one for characterising (Adams-Webber and Benjafield, 1973). The usefulness of this asymmetry is that the unmarked form of the pair is used to make positive judgements. The marked form, on the other hand, is used in such a way as to make those phenomena which the individual experiences as unusual as striking as possible (Benjafield and Adams-Webber, 1976). The individual's particular use of a characterising universal may, therefore, be the manifestation in the representational medium of language of the third-level functioning of paradigmatic core structure. Implicit in the particular use of a characterising universal are its paradigmatic value connotations, which would only be accessible to the speaker's consciousness if that particular third level of reference were articulated.

The paradigmatic functioning of core structure directs the individual's attention towards those patterns of phenomena which he would experience as unusual: in Kelly's terms, as threatening his 'maintenance processes'. Judgements expressed in terms of the unmarked form show greater consistency with one another than those judgements expressed in marked form (Adams-Webber, 1977), so that core structure is probably interrelated in terms of the unmarked form. Further evidence for this comes from the relative ease with which the individual is able to remember comparative statements when made in unmarked as opposed to marked form (Clark and Card, 1969); and also from the greater speed with which the individual can make deductions from unmarked as opposed to marked information (Clark, 1969). Such relative ease in remembering

and deducing would follow from the syntagmatic unmarked statements being embedded in a paradigmatic core structure interrelated in unmarked terms.

Core structure, therefore, is to be viewed as a third level of structure made up of related relatednesses in the individual's experience which manifests itself in language as particular characterising statements which have some implicit value bias. Core structure thus enables the individual to act in ways which can be expressed in terms of subject-referenced knowing, and which directs his attention towards those patterns of phenomena which are paradigmatically deviant or marked. There would be considerable survival value in this mode of functioning if there were stability in the patterns of phenomena being experienced by the individual. Given an environment in which those patterns are changing, however, the inaccessibility of core structure through consciousness would make it very difficult for the individual to change his interpretation of the value of experienced patterns intentionally. The conclusion, however, is that there is evidence for the existence of a third level of structure in the individual's use of language.

Implications

Kelly developed the repertory grid technique for examining how individuals construed their world (Fransella and Bannister, 1977), among other methods he used for working with individuals. This technique represents, in the form of a matrix, the functioning of syntagma representing parts of the individual's experience of his world. Each column represents how a particular syntagma is experienced in terms of a number of constructs. Thus, the matrix is a form of syntagmatic structure. Whether using factor or cluster analytic techniques, differences and similarities between the functioning of constructs can be expressed, and depending on how this analysis is used, issues associated with the functioning of second and third levels of structure can be explored. The technique itself, however, does not provide a way of representing the third level of structure, nor does it distinguish between the functioning of constellatory and propositional construing in a structural rather than a statistical sense.

The implications grid does examine the interrelationships between constructs. It does so, however, by referencing the construct as a syntagma, rather than as a syntagmatic structure. Methodologically, therefore, the implications grid has the same difficulty as the repertory grid in distinguishing between constellatory and propositional construing, and equally is incapable of representing the third level of structure for the individual. The matrix, like language, is only doubly articulated.

The technique of reflective analysis (Boxer, 1978) is an implementation of the repertory grid technique on the computer which exploits the computer's interactive capability so that the expression of propositional construing is not discriminated against through the use of black-or-white distinctions; and also which enables the manager to use the computer to explore the patterns implicit in how he patterns the syntagma. He can therefore experience a conversation with himself though the medium of the computer as if the medium were trebly articulated. The technique's effectiveness depends very much on how it is used to support the reflective learning process. Many problems are created by having to work with a man-machine interface which is expected to over-determine the kinds of learning process it is trying to support. The software used in the computer is a basic application of fuzzy set theory (Kaufman, 1975) which could be used to extend the medium so that it could represent the functioning of core structure. The significance of the technique, however, is that it

represents a use of technology which leads up to the point of structuring rather than away from it. The learning implications of this apply not just to the process of exercising judgement, but extend to the whole field of developing self-led learning capabilities: learning to learn. As such, it provides a starting point for a whole new kind of medium which deals explicitly with the paradigmatic issues of choice, value and intentionality.

Conclusion

The framework developed in this chapter defines reflective learning as a process undertaken by a manager to explore his own third level of core knowing. The framework itself is reflexive, because it is capable both of representing that 'reality' and also of representing its own existence as an expression of my intentionality. The framework describes knowing and experiencing in terms which enable internal intention to be related to external form. The operationalisation of the framework has been used by managers to support their own reflective learning process (Boxer, 1980; Boxer and Boot, 1980). Those managers have experienced its use as enabling them to explore their own intentionality in ways which are consistent with this framework.

The manager's experience of his organisation is typically one of over-determination. This is a necessary condition for the existence of an organisation as an operational whole, but at some point an organisation needs the capability for acting in self-determining ways - for acting strategically. This means that at least some managers within an organisation must be capable of acting in self-determining ways. The source of over-determination in an organisation is its own culture: the third level of paradigmatic functioning of cultural assumptions, which are implicit in how organisational choices are made. The reflective learning process develops in managers the forms of consciousness appropriate for developing judgement, thereby giving the organisation a strategic capability. The beginnings of a technique for supporting this process have been created (Boxer, 1979). The technique has the property of being experienced as having treble articulation, thereby enabling the manager to make explicit the paradigmatic structure as he experiences it, of the organisational culture in which he is embedded. As such, the technique provides him with a means of being conscious of how the organisation over-determines him, and thereby also gives him the responsibility for choosing how he and others are to be over-determined.

Acknowledgement

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