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A theoretical and analytical synthesis of autopoiesis and sociolinguistics
for the study of organisational communication

PHILIP GRAHAM & BERNARD MCKENNA

Abstract

The purpose of this paper is threefold: Firstly, we propose a systemic view of communication based in autopoiesis, the theory of living systems formulated by Maturana and Varela (1980, 1987). Secondly, we show the links between the underpinning assumptions of autopoiesis and the sociolinguistic approaches of Halliday (1978), Fairclough (1989, 1992, 1995), and Lemke (1995, 1998). Thirdly, we propose a theoretical and analytical synthesis of autopoiesis and sociolinguistics for the study of organisational communication.

In proposing a systemic theory for organisational communication, we argue that traditional approaches to communication, information, and the role of language in human organisations have, to date, been placed in teleological constraints because of an inverted focus on organisational purpose - the generally perceived role of an organisation within society - that obscure, rather than clarify, the role of language within human organisations.

We argue that human social systems are, according to the criteria defined by Maturana and Varela, third-order, non-organismic living systems constituted in language. We further propose that sociolinguistics provides an appropriate analytical tool which is both compatible and penetrating in synthesis with the systemic framework provided by an autopoietic understanding of social organisation.

The theoretical framework of autopoiesis: key terms and definitions

Maturana and Varela (1980) argue that the presence of autopoietic organisation¹ - or self-producing processes - within a system is both necessary and sufficient to classify the system as living. The relevance of autopoiesis to communication theory lies in Maturana and Varela's assertion that human beings' autopoiesis is made possible within an interrelated network of social environments that, in their view, are recursively created, coordinated, and maintained through the use of language (cf. Maturana & Varela 1980, 1987).

Autopoietic systems are 'self-making' systems 'defined as unities through the basic circularity of *their* production of *their* components' (Maturana & Varela 1980: xiv, our italics). Maturana and Varela assert that 'autopoiesis is necessary and sufficient to characterize the organization of living systems' (1980: xviii). In other words, if it can be shown that an entity has a self-producing organisation, it is recognised as a '**living system**' (1980: 9-11; 82-84). From this perspective, Maturana and Varela point out that '**purpose, function or goal are unnecessary and misleading**' concepts when classifying a system as 'living', the only consideration being whether or not the system's internal organisation is oriented to the reproduction of its own unity (1980: xix, 85-86).

A **unity** is an 'entity' which is 'distinct from a background' or environment (Maturana & Varela 1980: xviii; 96). Maturana and Varela differentiate between a '**composite unity**' which has processes of organisation associated with its structure, and a '**simple unity**' which 'only has the [physical] properties with which it is endowed by the operation of distinction' (1980: xx). The identification of various unities through the process of **distinction** is defined by Maturana and Varela as the 'basic cognitive operation' that humans perform as observers (1980: xix). **Systemic cognition** is intrinsic to Maturana and Varela's theory because of the need for continual distinctions to be made by a system between itself and its environment (1980: 9). Maturana and Varela argue that cognition is, therefore, an emergent property of any living system (1980: 8-11).

The **organisation** of a particular kind of system consists of the 'relations between components' that define the system's typology (1980: xix-xx). Therefore, it is the **relatedness** of systemic components, rather than the components themselves, that identify a particular system as being distinct from, or similar to, others (1980: xix-xx). To exemplify: While people share similar self-producing biological processes, each person is physically unique.

Social systems are defined by Maturana and Varela as third-order autopoietic systems which arise as a result of structural coupling among second-order, metacellular living systems such as insects or people (1980: 107-108). **Structural coupling** occurs when structural changes are triggered - *not* determined - in living systems 'whenever there is a history of recurrent interactions leading to a structural congruence between two (or more) systems' (Maturana & Varela 1987: 75), including interactions between a system and its environment (Maturana & Varela 1980: xx-xxi; 102-107; 1897: 39-46; Luhmann 1995: 55; Allen & Sanglier 1980). The result of structural coupling for any

system, according to Maturana and Varela, ‘will be a history of mutual congruent² structural changes as long as the autopoietic unity and its environment do not disintegrate’ (1980: 107-111; 1987: 75). Maturana and Varela argue that systemic changes caused by structural coupling *may exceed the limits of a unity’s organisational boundaries*. If **the limits of self-organisation** are exceeded, either the ‘system loses its identity and becomes something else, a unity defined by another organisation’, or disintegrates (1980: xx-xxi). Structural couplings and resultant systemic changes within human social systems occur in the linguistic domain (Maturana and Varela 1987: 206-235).

The **linguistic domain** is the domain of all linguistic behaviours within a typology of systems, (1987: 209). Maturana and Varela associate, but differentiate, among social phenomena, communicative behaviours, linguistic behaviours, and language (1987: 209). **Social phenomena** are ‘those phenomena associated with the participation of organisms in constituting third-order unities’ and are common to third-order unities formed by any metacellular organisms (1987: 193-195).

Communicative behaviours are ‘coordinated behaviours mutually triggered among members of a social unity’ (1987: 193). According to Maturana and Varela, ‘there is no “transmitted information” in communication’ (1987: 196). Rather, ‘communication takes place each time there is coordinated behaviour in a realm of structural coupling’ (1987: 196). Maturana and Varela argue that communicative behaviours orient participants’ behaviours to each other, or to the environment, by invoking a **co-ontogeny**, a meeting and mixing of subjective realities based on similar sensations of a world “out there” (1987: 180-196). The co-ontogenous view of communication forms the basis of autopoietic epistemological and ontological assumptions: Rather than taking the view - as does Bateson’s (1979) model of cognition - of the mind as a cognitive entity that manipulates coded representations of a knowable, objective, independently existing reality, Maturana and Varela assert that it is the way people see, classify, describe, and relate with each other and their environment that creates linguistically described, socially shared understandings of an ultimately unknowable world (Capra 1996: 278-288; 297-300; Maturana & Varela 1980: 115-123).

Maturana and Varela view **linguistic behaviours** as meta-communicative in that they coordinate communicative behaviours and, therefore, social phenomena (1987: 229-230). They argue that, because of the apparent integratedness of the human linguistic and cognitive domains, the concepts of ‘mind’ and ‘consciousness’ must be included as integral to the human domain of **language** (1987: 231). The **cognitive domain** of humans iteratively observes, defines, creates, and coordinates the social, communicative, and linguistic domains in which individuals realise their autopoiesis (1987: 231). Maturana and Varela summarise this concept by saying that:

in the network of linguistic interactions in which we move, *we maintain an ongoing descriptive recursion which we call the “I”*. It enables us to conserve our linguistic operational coherence and our adaptation in the domain of language (1987: 231, original italics).

Maturana and Varela specify the social domain of language as the environment in which humans constitute their autopoiesis, that is, their autonomy³ and identity; their recursively self-described “I” (1987: 231). According to Maturana and Varela,

language is unique to humans⁴ and differs from linguistic behaviour - such as that displayed by birds - insofar as language allows humans to reflexively coordinate their own linguistic behaviour (1987: 211).

To proscribe traditional understandings of systemic purpose, Maturana and Varela differentiate between the autopoietic - or self-producing - processes of the living system and its **allopoietic** processes: A system's autopoietic organisation is enclosed within its boundaries and is concerned solely with the system's maintenance and iterative reconstitution of itself as an identity, while its allopoietic processes are those that produce something other than the system itself (Maturana & Varela 1980: 77-78). As a demonstration of the difference between allopoietic and autopoietic processes, assume - hypothetically for the moment - that the Ford company is autopoietic. The ostensible purpose of the Ford company is the transformation of various materials into cars. The production of cars is an allopoietic process of the Ford organisation because the Ford car-making process produces something other than the organisation itself and, as such, is incidental to our theoretical approach. The Ford company also continually recreates the Ford company as a recognisable entity within society. The processes that maintain the Ford company as a distinct identity may be viewed as a function of its autopoiesis. According to Maturana and Varela, human social systems are constituted in language, as is the human concept of identity (1987: 231). This being the case, we assert that a sociolinguistic analysis of linguistic phenomena is the most appropriate analytical tool in understanding the systemic, self-producing, self-maintaining, and self-organising role of language in the human social system. Also, as Varela (1992) points out, in studying the cognitive processes of living systems, '[w]e are forced to discover "regions" that interweave in complex manners, and, in the case of humans, that extend beyond the strict confines of the body into the socio-linguistic register' (1992: 14).

From a sociolinguistic perspective, Fairclough (1992) acknowledges the constitutive role of language in the systemically constructed identity of individuals noting that:

... the identity function of language begins to assume great importance, because the ways in which societies categorize and build identities for their members is a fundamental aspect of how they work, how power relations are imposed and exercised, [and] how societies are reproduced and changed (1992: 168).

Consistent with Fairclough (1989, 1992, 1995) and Lemke (1995), we argue that human social systems are themselves unities that can be identified by the ways in which their members describe "the world", and by the way in which they themselves are described. We assert that social systems are living systems that survive and reproduce discursively in social environments which they mutually and iteratively specify, and are specified by, in the social domain of language.

Social systems and systems theories: Criticisms, failures, and misunderstandings

Academic criticism of systems theorising, particularly in the context of sociology, is exemplified in the words of Lilienfeld (1978) who says:

Systems thinkers exhibit a fascination for definition, conceptualizations, and programmatic statements of a vaguely benevolent, vaguely moralising nature ... They collect analogies between the phenomena of one field and those of another ... the

descriptions of which seem to offer them an esthetic delight that is its own justification ... No evidence that systems theory has been used to achieve the solution of any substantive problem in any field whatsoever has appeared (Lilienfeld 1978: 191-192).

At the time Lilienfeld wrote on the ideology of systems theory, several systemic theoretical approaches focusing on the concept of self-organisation, besides the theory of autopoiesis, were developed (Capra 1996: 78; Zeleny 1980; Jantsch 1980). These include: dissipative structures (Prigogine 1980); laser theory (Haken 1985, quoted in Capra 1996: 91); and autocatalysis, hypercycles, and ultracycles (Jantsch 1980, Capra 1996: 88). We will briefly describe the basis of these theories to provide a context for the purpose of validating, to some degree, Lilienfeld's critique of ideologically driven systems theorists in the context of proliferating misapplications of complex systems theories in sociological fields. In contrast, we will also argue that valid applications of systems theories are possible *in the areas to which they apply*.

Briefly, the theory of dissipative structures is based on far-from-equilibrium chemical reactions which produce order from instability under extreme thermodynamic stress, thus negating the thermodynamic law of entropy which, in opposition to the behaviour of these chemical reactions, posits a universe that tends inexorably towards thermodynamic disorder (cf. Capra 1996; Prigogine 1980, 1997). Prigogine's mathematical formulations of the behaviour in dissipative structures is attributed as the foundations upon which *Chaos* (Gleick 1987; Prigogine 1997) and *Complexity* (Arthur 1995) theories are based. *Chaos* and *Complexity* theories are non-linear⁵ mathematical descriptors that have generated multi-disciplinary metaphors which are most usually - to paraphrase Lilienfeld - mere analogies that are justified by their aesthetic appeal alone (1978: 192).

Alan Sokal, professor of physics at New York University stresses that *Complexity* theory 'is in a very inchoate stage, even as pure mathematics' and contends that 'its supposed "applications" to social phenomena usually seem to amount to nothing more than pasting trendy metaphors over banal ideas' (email correspondence, May 15 1998). Sokal's position on *Chaos* is less scathing but warns that 'chaos theory (i.e. the theory of nonlinear dynamics) is rather well developed mathematically, but to *apply* it in a sensible way to a concrete physical, biological or social system requires a fair knowledge of the equations that govern the system - something that is usually *not* fulfilled in social systems' (email correspondence, May 15 1998, original emphasis). The mathematics of *Chaos* and *Complexity* may be useful as retrospectively applied analytical tools for complex systems behaviour, they do not, however - as Prigogine himself acknowledges - provide predictors for how a system will react in a future situation (Prigogine 1997: 109).

Similarly, autocatalysis, a pre-biological theory of chemical self-reproduction (Jantsch 1980), and Haken's (1983) laser theory (quoted in Capra 1996: 89-92), which is based on the self-organising behaviour of quanta⁶ in extreme conditions, may provide enchanting metaphors for complex social behaviour, but cannot seriously be considered as social theories unless one assumes that the behaviour of human beings is similar to that of thermodynamically distended chemical compounds, pre-biological chemical reactions, or unusually coherent collections of light particles. While these theories may provide useful statistical tools, none, at least in our view, provide an

appropriate basis for social theory. Nevertheless, many prognosticating social and organisational theorists suggest that *Chaos* and *Complexity* provide sound bases from which to theorise about sociology (Arthur 1995; Bella 1997; Gell-Mann 1994; Gunter 1995; Janstch 1980; Kauffmann 1996; Latham 1998, 201-201; Mulgan 1997: 3; Stacey 1995; Rough 1997; Youngblood 1997).

While certain *Complexity* social theorists, such as Janstch (1980), and Capra (1996) are benign or idealistic in their theoretical applications, we contend that much of the theorising that goes under the heading of complex systems theory, especially in the areas of management and organisational communication, takes the form of sophistry that legitimises structural amorality. Take, for instance, Bella's (1997) assertion that complex systems theory largely divests the tobacco industry of culpability in deceiving the public about the dangers of tobacco:

Leaked documents and public testimony point to widespread distortion of information within the tobacco industry. The model describes such behaviors as emergent outcomes not reducible to or sufficiently explained by individual fraud and deliberate deceit. Critics of the tobacco industry often fail to appreciate the role of self-organization in complex systems. They presume rational design. Consequently, they imply more intentional deceit, deliberate planning, and conspiracy needed to explain the distortions that actually occurred. The tobacco industry expresses general phenomena found in many large-scale human systems ... They are self-organizing (Bella 1997: 977-978).

Bella's sophistry is, unfortunately, somewhat typical of sociological complex systems theorising, especially in the areas of management and organisational communication. Bella's agenda is transparent and exemplifies Sokal's criticism of current applications of *Complexity* theory in sociology. Bella also indicates the direction in which a pre-biological view of human behaviour might take sociological theory.

Positioning autopoiesis within the field of sociology

As a sociological theory, autopoiesis has been widely interpreted (Beer 1981 1985; Capra 1996; Goudsmit 1992; Luhmann 1995; Mingers 1995a; 1995b; 1996; Mulgan 1997: 180-181; Whittaker 1998; Zeleney 1980). The unusual way in which Maturana and Varela express their theory may partially explain the divergence in its interpretation. Maturana and Varela deliberately describe their theory using 'a new language' and, as a result, widely divergent interpretations of autopoiesis are inevitable (Maturana & Varela 1980: xiii). Under-reading of autopoiesis may lead to an a view of autopoiesis as merely an elaboration of entelechy⁷. Such an under-reading leads - at best - to a continued inversion of systemic teleology, and at worst, the basis for questionable social policy. Geoff Mulgan (1997), founder of the British think-tank, *Demos*, writes in favour of a minimalist role for government:

[S]ince distributed intelligence means distributed responsibility, culpability, and worry ... it would embody at each scale the principles of reciprocity that I have argued are the basis of modern social orders. The philosophical idea that best expresses this ideal of a self-organising society is autopoiesis, or self-creation, one of the most potent themes in contemporary systems thinking ... They [Maturana and Varela] argued that rather than thinking of systems in relation to an external environment we should see them as autonomous, circular and self-referential,

primarily concerned with their own organisation and identity (Mulgan 1997: 180-181).

Here, Mulgan, for whatever reason, ignores the domain-specific phenomenology that Maturana and Varela specify as central to interpreting their theory (cf. Maturana & Varela 1980; 1987). Mulgan's interpretation also ignores the fundamental premise of autopoiesis: the intrinsic cognitive relationship between an autopoietic system and its environment. Put simply, Mulgan confuses the autopoietic attributes of a single cell - a first-order autopoietic system - with those of a second-order, metacellular system, such as a person, while completely ignoring all attributes of third-order autopoietic systems including the fundamental property of third-order systems which is, that an autopoietic social system provides the environment in which its constituents realise their autonomy. Furthermore, Maturana and Varela specify that a system can be identified only in relationship to its environment (Allen & Sanglier 1980; Luhmann 1995: 55; Maturana & Varela 1980: xx-xxi; 102-107; 1987: 39-46; Zeleny 1980). Because these tenets are intrinsic to autopoietic systems, we assert that Mulgan's reading of autopoiesis is ill-informed.

Among autopoietic social theorists, communication features most prominently in the works of Luhmann (1995) and Mingers (1995a, 1995b, 1996)⁸. In comparing Maturana's (1988, in Mingers 1996) theory of social autopoiesis with Giddens' (1979, 1984, in Mingers 1995) structuration theory, Mingers agrees that autopoiesis may provide an abstract basis for a sociological theory of communication (1996: 470). However, he argues that 'there are fundamental difficulties involved in such an application' (1996: 470). Mingers puts forward his reasoning for this assertion:

Generally, people can choose to belong or not to belong to particular institutions, and will be members of many at any time. What is it that would constitute the boundaries of such [social] systems and, moreover, how can it be said that such institutions act as unities –is it not only individual people who act? (1996: 470).

We contend that Mingers' rationale is convoluted in the context of autopoiesis: Mingers inverts the role of observer and unity by specifying the unity as an actor rather than as an observable entity that is 'distinct from a background' (Maturana & Varela 1980: xx-xix). That is to say, if an autopoietic unity is distinguishable - if it has an observable identity - it need not act in any particular manner other than that which maintains its unity or identity (Maturana & Varela 1987: 75; 1980: 107-111). Furthermore, we find Mingers' argument against a non-metaphoric view of social autopoiesis to be naive in the context of sociological and communication theories. He concedes, however, that an autopoietic social system 'might consist of concepts, or descriptions, or communications which interact and self-produce' (1996: 471). Mingers acknowledges Luhmann's (1995) interpretation of social autopoiesis noting that Luhmann's theory 'specifies communication as the basic component' (1996: 471). Mingers concludes that, theoretically, Giddens and Maturana, are similar but incompatible in their assumptions (1996: 478-479). In summary, Mingers' takes a deterministic, realist standpoint to negate the validity of social autopoiesis:

The problem is to determine unambiguously the nature of the components, the production processes, and the autopoietic relations of such a system. Maturana, himself, does not claim that social systems are autopoietic, but that they are a

medium for the interaction of autopoietic systems under conditions of mutual acceptance (1996: 479).

Mingers' mechanistic assessment of social autopoiesis appears to suit his purposes as an Information Systems (IS) theorist⁹ but is not helpful in the debate about social autopoiesis other than to highlight the impracticalities of imputing social autopoiesis from a deterministic, realist (Mingers 1995b: 293) standpoint.

The role of language in human social systems

Mingers' concerns about social autopoiesis are easily addressed from the discursive perspective of sociolinguistics (cf. Fairclough 1989; Halliday 1978; Lemke 1995; McKenna 1997; van Dijk 1994): Social unities may be identified as discourse communities (Lemke 1995: 41; McKenna 1997; van Dijk 1994), or, in the language of autopoiesis, consensual domains (Luhmann 1995: 81; Maturana & Varela 1980: 137; 1987: 207-212; Mingers 1995a: 36; 1996: 480). Lemke, drawing on Bakhtin's (1929/1986, in Lemke 1995: 22) theory of 'intertextuality', asserts that a discourse community can be identified by the way it describes the world and its interactions because '[e]ach community, each discourse tradition, has its own canons of intertextuality¹⁰, its own principles and customs regarding which texts are most relevant to the interpretation of any one text' (1995: 41). Sociolinguistics examines:

- How language is used to construct things in the natural or social domains by their 'explicit descriptions as participants, processes, relations and circumstances standing in particular semantic relations to one another';
- How the discourse community orients itself attitudinally to others, and to the presentational content of its own discourse, and;
- The organisational¹¹ 'construction of relations between elements of the discourse itself' (Lemke 1995: 41).

From this sociolinguistic, discursive perspective, Mingers' questions about the constitution of social boundaries, social components, social production processes, the autopoietic relations of social systems, and their social reproduction (van Dijk 1994: 109) are answered. In defining the role of language in a discourse community, Killingsworth and Gilbertson encapsulate the concept of social autopoiesis as a function of discursive practices 'by which communities develop and advance their agendas of action¹², build solidarity, patrol and extend their boundaries, and perpetuate themselves in the life of a general culture' (Killingsworth and Gilbertson, quoted in McKenna 1997: 191). In other words, a sociolinguistic discourse approach is consistent with the fundamental tenets of the linguistic and communicative behaviours specified by an autopoietic social theory of communication, and with Maturana and Varela's description of the cognitive relationship between the system and its environment (Mingers 1995: 17; Maturana & Varela 1980: 48-50; van Dijk 1994).

An autopoietic and sociolinguistic theory of self-organising, self-describing social entities necessarily extends to view the effects of a discourse community's social environment upon its own descriptions about itself and vice versa (Lemke 1995: 37-39; Maturana & Varela 1980: 48-50; van Dijk 1994: 110). Lemke asserts that, within a discourse community, '*thematic patterns* ... recur from text to text in slightly

different wordings, but [are] recognisably the same, and can be mapped onto a generic semantic pattern that is the same for all' texts about a particular theme (1995: 42, original italics). This being the case, Lemke's discourse theory provides a useful tool by which to analyse the self-descriptions, and, therefore, the organisational aspects, of a discourse community (Lemke 1995: 99-105; Maturana & Varela 1987: 211).

We hypothesise that the consistency between systemically produced descriptions of "the world" and the system, and the descriptions produced by individual constituents of the social system - or discourse community - will be directly related to the degree that the social system facilitates the autonomy or autopoiesis of its constituents. Put simply, we hypothesise that the higher the degree of consistency between systemically produced descriptions and individually produced descriptions, the more likely it is that a particular discourse community will maintain an ongoing identity within society.

Organisational communication, autopoiesis, and sociolinguistics: A synthesis

Recent theorising about organisational communication indicates that it remains, both in respect of focus and practice, an ill-defined discipline that is influenced largely by trends in management theory (Johnson 1990; Dixon 1996a 1996b, Hawkins 1997; Herschel & Andrews 1997; Kendall 1997; Morley, Shockley & Cesaria 1997; Ngwenyama & Lee 1997; Page 1997, Paul & Strbiak 1997). Hawkins' (1997) *Organisational culture: Sailing between evangelism and complexity*, gives an exhaustive account of historical and current trends in organisational theorising from the Taylorist view of the organisation-as-machine; to the Parsonian, organisation-as-organism view of organising; to an anthropological and cultural view; to psychological and cognitive approaches; to current trends in theories of individual and organisational complexity, including the outlandish quantum-cognitive approach; to postmodern theories of organisational change management. Although Hawkins' history emphasises the systemic and social nature of organisational communication, it provides no definitive understanding of how organisational communication might best be understood other than as 'a fascinating field and a discipline fraught with academic and methodological complexity' (Hawkins 1997: 431).

The uncritical acceptance by management theorists of the assumption that communicating and cultivating 'one shared vision' within the enterprise is both possible and desirable results, as Hawkins notes, in proliferating and oversimplified sets of 'homilies and commandments' that do little to reveal the dynamic nature of competing discourses within the enterprise based social system (1997: 418). From a critical perspective, we argue that these proliferating, simplistic theories of organisational communication represent a conservative reflex to the indeterminacy specified by the ascendance of subjectivity and intersubjectivity in poststructuralist sociology, and complex systems theorising in the fields of physics, chemistry, and mathematics. The pseudo-scientific posturing of traditional managerial rationalism, exemplified in the complex theorising of Bella (1997), are consistent with Saul's (1992) assertion that such posturings typify the conservative tradition of so-called rational management, both in business and politics:

The creation of contemporary government elites has followed the same course as that of the new business elites. The phenomenon has different superficial characteristics, but the underlying theme is identical ... [T]he trend began with the growth of the

social sciences, which forced the full array of of real social questions into a falsely scientific straightjacket. The postwar schools of political science and economics are a prime example, with their reliance on abstract models, flowcharts, and impenetrable specialist dialects. Apart from being indescribably boring, they have been almost flawlessly wrong on every issue they have addressed (1992: 123).

As Bella (1997) and Mulgan (1997) demonstrate, the indeterminacy of sociological and physical sciences, rather than subverting the historically seamless rationalist discourse within the fields of management and political theorising, provides a platform from which such pseudo-scientific managerialism divests itself of responsibility for systemic outcomes. Furthermore, uncritical complex systems theorising provides a new dimension of structural amorality in which conservative rationalism flourishes. Gee and Lankshear (1995) emphasise the imperative to critically analyse discourses that require the constituency of a 'complex system' to 'simply align itself with the values, visions, and practices of fast capitalism' (1995: 10).

We argue for a synthesis of autopoietic and sociolinguistic methodological lenses that filter out these traditionally accepted notions of enterprise based systemic purpose. While acknowledging the subjectivity of meaning, Dixon's (1996a, Chap. 7; 1996b) perception of systemic purpose exemplifies the traditionally perceived relationship between organisational communication and organisational purpose: That is, that well-managed organisational communication provides a unifying 'vision' for its members, thus bringing greater efficiency to the enterprise (Dixon 1996, Chap. 7). Regardless of how subjective an account of organisational communication is conveyed in the context of traditional understandings of systemic purpose, we argue that a focus on the alignment of individual goals to organisational goals through such instruments as vision, purpose, or mission statements, participatively produced or otherwise, is epistemologically and ontologically mechanistic because, regardless of how the language is couched, the individual is necessarily viewed as a functional object in the context of 'one organisational purpose' (Dixon 1996a: 76). Such understandings of human social systems provide little insight into the making of abstract organisational meaning.

An autopoietic view of social systems specifies teleologically driven understandings of social systems as allopoietically focused and, therefore, largely irrelevant to the processes that maintain individual and organisational identities, both internally and externally of the system (cf. Luhmann 1995; Maturana & Varela 1980: 77-78). Viewed through the lens of autopoiesis, organisational communication is the means by which a socially embedded discourse community maintains its identity; the means by which its individual constituents understand "the world" and themselves through descriptive discourse; and the means by which convergent and divergent relationships between the organisation and its constituent individuals are produced, maintained, and altered - dialogically and dialectically - through the use of language.

Theorists from a range of disciplines argue that human social systems, from interpersonal relationships (Pask 1992: 228, Vandamme 1992: 97-98; van Dijk 1994: 109) to the global society (Luhmann 1995: 262-271; Vandamme 1992: 97) are observing (Vandamme 1992: 97; van Dijk 1994), cognitive (Garud & Rappa 1996; van Dijk 1994), self-observing (Phillips 1996: 476; van Dijk 1994), self-producing

(Luhmann 1995: 406, van Dijk 1994), self-describing entities (Gioia, Thomas, Clark, & Chittipeddi 1996: 238; Maturana & Varela 1987: 211; Pask 1992: 227), and so may be described as autopoietic. If we assume, as Maturana and Varela do, that the presence of systemic autopoiesis is sufficient to define the system as living, the question of whether a social system can be classified as a living system is confirmed. As Lemke emphasises: ‘an ecosocial¹³ system *is* an ecosystem’ (1995: 119, original emphasis) with all the features of semogenesis¹⁴ that this entails (Lemke 1998).

Human social systems present a unique case in that the autonomy of the individual within a given social system is based in linguistic descriptions of what it means to be an individual in that system (Aristotle 1962/1981: 246; Brown & Isaacs 1997; Pask 1992; Vandamme 1992; Hacking 1996, Luhmann 1995: 139-174; Tambiah 1996: 47-48). Historically, metaphors of that which constitutes knowledge of life itself also generate metaphoric descriptions of the living organisation (Aristotle 1962/1981: 246; Bronowski 1973: 221-234; Dixon 1996a: 78; 1996b: 69-70; Hawkins 1997; Rough 1997; Tambiah 1996: 47-49; van Dijk 1994: 114-117; Zeleny 1980). A Newtonian clockwork understanding of life creates mechanistic, reductionist, deterministic metaphors of the living system as a machine-like organism composed of functional, analysable parts, and which is made primarily to produce something other than itself (Allen & Sanglier 1980; Hawkins 1997; Tambiah 1996: 47-49; Zeleny 1980). An autopoietic systems view offers an alternative, non-organismic understanding of the living organisation as a third-order autopoietic system in which its constituents realise their autonomy (Maturana & Varela 1987: 107-108). Sociolinguistics offers a socially contextualised way to study how language is used to maintain and redefine the boundaries, behaviours, and power relations within the autopoietic social system. We propose that a theoretical synthesis of autopoiesis and sociolinguistics provides a comprehensive and parsimonious, systemic, analytical lens for the study of organisational communication.

Philosophical implications of the theoretical framework

Autopoiesis rests upon specific teleological, epistemological, ontological, phenomenological, and cognitive¹⁵ assumptions. Maturana has been criticised for invoking the epistemic fallacy of confusing or collapsing the nature of knowing with the nature of being (Mingers 1995a: 115). However, we believe that both Maturana and Varela have carefully considered their stance in respect of the epistemological and ontological aspects of their theory. They argue that the common biological roots of human beings predispose them to particular ways of knowing thereby limiting their knowledge of what “is”. Thus, according to Maturana and Varela, the philosophical issues of knowing and being are inextricably linked to the biologically limited access that humans have to “the world”. This being the case, Maturana and Varela argue that humans, perhaps mistakenly, attribute one or more purposes to living systems by unquestioningly viewing systemic behaviour from an anthropocentric, teleologically causal standpoint rather than as a function of the systems’ autopoietic processes. In the following paragraphs, we clarify the philosophical standpoints and interpretations fundamental to our view of autopoiesis.

Systemic teleology: Autopoietic theory applied to systemic behaviour eschews traditional notions of systemic purpose. Systemic purpose, other than maintaining an

identity within a given niche or environment, is considered to be an attribution made by an observer. Any perceived purpose or function of a living system, other than the processes which constitute its identity maintenance, is considered as allopoietic, coincidental to, and emergent with, the system's relationship to its environment.

Epistemology: The epistemology of autopoiesis is based in studies of relatedness and includes the relationship of the observer to that of the observed phenomena (Capra 1996: 40; Maturana & Varela 1980: 8-11; 1987: 211). The theoretical framework rejects the notion that knowledge is representational, that is, that 'cognition is a *representation* of an independently existing world' (Capra 1996: 263, original italics; Maturana & Varela 1980: 115-118). Rather than extracting knowledge from a pre-given world, Maturana and Varela argue that people coordinate similarly experienced observations through language, and that '[t]he world everyone sees is not *the* world but *a* world, which we bring forth with others' in the domain of language (1980: 49-50; 1987: 211; 245).

Ontology: The ontological assumptions of autopoiesis are based in a co-ontogenous view of human understanding. The theory assumes that people cannot have ultimate knowledge of the world due to their shared biological limitations as observers. Thus, "the world" is assumed to exist, but is not endowed with ultimately fixed, knowable features other than those to which members of human social systems, by way of their shared sensations, understandings, and perceptions of "the world", have shared access (Maturana & Varela 1980: 98). The ontology of an autopoietic perspective is a synthesis of nominalist and realist standpoints based on linguistically mediated, biologically limited access to "the world".

Domain-specific phenomenology, logic, and language: Autopoiesis specifies first-order cellular, second-order meta-cellular, and third-order social domains. Within these domains, specific phenomena emerge. Cognition is present in all domains. Within each domain, Maturana and Varela argue that a 'universal logic' is valid that specifically refers to 'the relations possible between the unities that generate these domains' (1980: 121). Thus, deeper traditional philosophical questions are confronted by autopoiesis. In particular, the paradoxes inherent in the 'laws of thought'¹⁶ (Russell 1912/1997: 72-73) are confronted. For instance, a thing may "be" in one's "mind" – a descriptive domain (Maturana & Varela 1980: 123); whilst, concurrently, not "being" in "the world" – a physical domain extrinsic to the observer – and vice versa (1980: 50-51).

Within the social domain, Maturana and Varela specify four other phenomenological domains: The social domain in which social phenomena emerge; the communicative domain, in which coordinating behavioural phenomena emerges; the linguistic domain in which linguistic phenomena - behaviours that coordinate communicative behaviours - emerge; and the consensual domain(s) of language, in which descriptions about linguistic behaviour emerge. Maturana and Varela argue that, at this point, self-consciousness emerges:

[A] living system capable of being an observer can interact with those [observations] of its own descriptive states which are linguistic descriptions of itself. By doing so it generates the domain of self-linguistic descriptions within which it [the system] is an observer of *itself* as an observer, a process which can be necessarily repeated in an

endless manner. We call this the domain of self-observation and we consider that self-conscious behaviour is self-observing behaviour, that is, behaviour in the domain of self-observation. The observer as an observer necessarily always remains in a *descriptive domain*, that is, in a relative cognitive domain' (1980: 121, our emphasis).

Here, the self-referentiality that has vexed an acceptance of social autopoiesis becomes apparent (cf. Goudsmit 1992; Luhmann 1995; Mingers 1995a, 1995b, 1996; Zeleny 1980). However, if one accepts that communication is the basic processual element of human social systems, and focuses on the domain-specific dynamics of language from phenomenological and social perspectives, the theory becomes both manageable and viable as a social theory of communication (cf. Luhmann 1995). The notion that there is no "information" in communication is, perhaps, difficult to accept (Maturana & Varela 1980: 30-38; Mingers 1995b; 1996). Maturana and Varela view language as 'orienting behaviour' (1980: 30). We understand this to mean that language orients individuals to a particular theme: that is, for language to be communicative, it must orient participants to something *about* something in "the world", including descriptions, or descriptions of descriptions, and so on. A consensual domain exists when a 'specific system of communicative descriptions' - a discourse community in the language of Fairclough (1989, 1992, 1995), Lemke (1995), and Halliday (1978) - are used to orient communicative participants to themes about "the world" (Maturana & Varela 1980: 30-31).

Cognition, information, and representationism: Artificial intelligence theorists posit an input-output, coding-decoding, memory-bank model of human cognition similar to that which a computer uses to access so-called information (cf. Pinker 1994, 1997; Davies 1989). Maturana and Varela eschew such a notion of memory, cognition, and information. Capra (1996) translates Maturana and Varela on these points most transparently:

A computer processes information, which means that it manipulates symbols based on certain rules. The symbols are distinct [discrete] elements fed into the computer from outside, and during the information processing there is no change in the structure of the machine... The nervous system [of a living system] works very differently... it interacts with its environment by continually modulating its structure, so that at any moment, its [entire] physical structure is a record of previous structural changes [that is, a history of triggered structural couplings PG]. The nervous system does not process information from the outside world but, on the contrary, *brings forth* a world in the process of cognition' (1996: 267).

From an autopoietic perspective, cognition is viewed as effective action in the context of constant, continual communion with an environment that is both specified by, and at the same time specifies, the cognitive domain of the individual. Varela, Thomson, and Rosch (1993) quote Merleau-Ponty to encapsulate the phenomenology of human cognition:

The world is not an object I have in my possession ... it is the natural setting of, and field for, all my thoughts and all my explicit perceptions ... The world is inseparable from the subject ... and the subject is inseparable from the world, but from a world which the subject itself specifies (Merleau-Ponty 1962, in Varela, Thomson, & Rosch 1993: 3-4).

Thus, we view socio-cognitive phenomena as mutually specified, reciprocally causal interactions between a system and the material and social environments in which it maintains its identity.

Conclusion

Because organisational communication, generally speaking, shapes itself as a discipline in response to trends in management theory, its theorists frequently neglect a fundamental function: defining what organisational communication is, or might be, as a discipline, other than to say that organisational communication studies ‘the nature of communication in organizations’ (Dixon 1996a: 1). Our proposal for an autopoietic, sociolinguistic study of organisational communication is a flexible, systemic, discursive approach to organisational communication that acknowledges its systemic and social nature, the constituting and constitutive role of language within the human social system, and the relationship of the social system to its environment and its constituents. Because specific analytical methods are beyond the scope of this paper, they will be discussed in a later paper.

The teleological constraints of traditional organisational epistemologies have, we believe, hindered the study of organisational communication by inverting the appropriate focus of the discipline. To clarify, the practical and academic discipline of organisational communication, rather than focusing on how language shapes the identity of a social system and its constituents, has, to date, focused on how language might best be used to bring greater efficiency and effectiveness in achieving organisational purpose. Such a focus, while it may be considered prudent in a corporate context, delegitimises, and so renders invisible, the relationship between the social system and its social and physical environments. Furthermore, a focus on organisational purpose renders the autonomy of the social system’s constituents invisible under the generally unquestioned rubric of organisational purpose.

An autopoietic view of communication within social systems carries with it an ethical and critical imperative: Social systems survive in niches that exist within social and physical environments. They also provide and create an environment which, itself, is continually recreated and defined through language in the social relations of the social system’s constituents, and in the system’s relationship with its social and physical environments. Therefore, communication within social systems should be considered in the context of the interdependent, linguistic relationships that the social system has with its environment and its constituents. The study of organisational communication as a facilitating prosthetic in the context of a perceived systemic purpose, or vision, renders the social system’s relationships with its environment, and the autonomy of its constituents, invisible and is, therefore, inadequate. The theoretical framework we posit here highlights the dialectical tension that arises between perceptions of the social system as a facilitating environment for its constituents, rather than as a purposive agent that acts solely within the context of its own perceived purpose. Most importantly, at least for the discipline of organisational communication, because our synthesis emphasises the dynamic, constituting role of language within the living social system, we believe, it better defines the focus and practice of organisational communication.

Notes

¹ Because the word *organisation* is central to the theory of autopoiesis and refers to the relatedness of systemic components, and to avoid confusion with the understanding of organisation as an enterprise, business, or some other human social system, hereinafter, we use the term *social system* to identify any social organisation.

² By congruent, Maturana and Varela do not invoke the ‘naturalistic fallacy’ which assumes that all things natural are ‘good’ (Pinker 1997: 50-52). ‘[C]ongruent structural changes’ in structurally coupled systems do not mean mutually beneficial changes, or even complementary changes, but changes sufficient to adapt to recurrent interaction with the environment and with other systems in the environment without the loss of identity (Maturana & Varela 1980: 107-111; 1987: 75-80).

³ We take *autonomy* to mean self-describing. The literal Greek root of autonomy, that is *auto* (self) *nomos* (law) is generally understood to mean self-governing. We choose a nominalist (Grote 1872: 251-252) interpretation of the literal translation: That is, that laws, themselves are descriptions (Grote 1872: 226: 251-252; Concise Oxford Dictionary 1982: 688). Thus, the ability of an organisation to describe itself necessarily implies the ability of the system to be self-governing because the fundamental feature of systemic autonomy is the ability of a system to phenomenologically describe itself as a unity.

⁴ Maturana and Varela do entertain the possibility that other species have language (1987: 214-215). However, we do not wish to enter into this debate for two reasons: Firstly, we are not convinced that humans can claim insight into the linguistic or cognitive domains of other species. Secondly, the argument is beyond the scope of this paper.

⁵ By non-linear, complexity theorists mean iterative (\Leftrightarrow).

⁶ Light particles.

⁷ A general theory of biological self-organisation based in Aristotle’s theory of vitalism (Davies 1989: 97; Grote 1872: 187).

⁸ Krippendorf (1994) proposes autopoiesis as the basis for a theory of communication, but his thesis, for whatever reason, ignores most fundamental tenets of autopoiesis and is not considered here.

⁹ Note that Maturana and Varela (1980), and Luhmann (1995), assert that there is no ‘information’ contained in communication, rather, they argue, communication orients socially consensual constituents to themes, and may be viewed as coordination of coordinating - or communicative - behaviours. This is problematic for traditional understandings of cognition, communication, and information in the context of information systems (IS) and artificial intelligence (AI) theorists who rely on a representationist or connectivist approach to understanding cognition (Cf. Pinker 1997; Mingers 1995). Put simply, the traditional approach of IS and AI theorists specifies that humans have hard-disk-like information storage somewhere in them which is independent of the environment. AI, IS, and autopoietic epistemologies represent fundamentally conflicting paradigms.

¹⁰ Lemke (1995: 22) follows Bakhtin’s (1929/1986) definition of the word ‘intertextuality’: That is, the heteroglossia - the spectrum of thematic choices - from which a discourse community typically chooses in interpreting and describing its world, and the way the discourse community relates to the heteroglossia in which it is embedded.

¹¹ Because the word *organisation* is applied to such different phenomena both by Lemke, Maturana and Varela, and in a more general sense, we may, at some later time, need to choose different language for one or more of the meanings of the word *organisation*. However, Lemke’s and Maturana and Varela’s definitions of *organisation* are very similar and may be interchangeable.

¹² This may be construed as systemic allopoiesis and, therefore, teleologically incompatible with autopoietic theory. We assert that the societally perceived “goal” or purpose of a discourse community or social system, as specified by sociolinguistic theorists, (McKenna 1997: 191) is merely a function of the societal niche which the system specifies in conjunction with its environment and within which the system maintains its identity (Maturana & Varela 1987: 210-211).

¹³ Lemke's view of 'ecosocial system' dynamics is a broadly-based synthesis of self-organising, complex systems theories. In our view, Lemke's formulation of cultural dynamics is paradigmatically compatible with autopoiesis because he contextualises biological phenomena as being cognitively 'coupled' with their social and physical environments (1998: 8, 13). Lemke is also careful to make the distinction between non-biological and biological systems. However, we see the autopoietic systems view as being specific and appropriate to viewing the role of language in a biologically based social system. Further, we emphasise the domain-specific phenomenology of autopoiesis that renders autocatalysis, quantum theory, dissipative structures, etc, largely irrelevant or inappropriate to the study of language in social systems.

¹⁴ By semogenesis, Lemke follows Halliday's (in press, quoted in Lemke 1998) definition: That is, that semogenesis is 'a progressive semantic differentiation in the language system' brought about by systemic context dependency' (Lemke 1998: 15). See Lemke (1998) for a full discussion of his views on the dynamics of social systems.

¹⁵ We differentiate between epistemological and cognitive issues because of the current dialectic between mainstream cognitive representationism (cf. Pinker, 1997; Mingers, 1995a, 1995b, 1996) and the view posited by Maturana and Varela that cognition is non-representational: That is, that humans do not possess a fixed mental "picture" of the world encoded by rule-based processes.

¹⁶ 1) *The law of identity*: 'Whatever is, is'; 2) *The law of contradiction*: 'Nothing can both be and not be'; and 3) *The law of excluded middle*: 'Everything must either be or not be' (Russell 1912/1997: 72).

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A theoretical and analytical synthesis of autopoiesis and sociolinguistics
for the study of organisational communication

PHILIP GRAHAM & BERNARD MCKENNA

School of Communication, Faculty of Business,
Queensland University of Technology
Brisbane Qld

For Social Semiotics