Information, Communication and Organisation:
A Post-Structural Revision

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The concepts of information and communication are analysed in terms of "difference." The essence of difference is self-interference, a process in which terms contain their opposites and thus defy any *singular* grasp of their meanings. To illustrate this way of looking at difference, concepts from psychoanalysis, the logic of infinite sets, language, etc., are discussed. Social organisation is fundamentally motivated by the need to suppress the self-interference intrinsic to difference and it does this through the creation of social objects/objectives. The specific function of the object/objective is to banish self-interference by separating its self-referential duality. This characterises a basic principle of human action: the principle of least effort. The function of modern organisation is the objectification of least effort in a codified order of information/knowledge which is designed to exclude self-interference from organised social systems. But since "organisation" and "object" are also information-based structures, they too are subject to self-interference. This means that the object/objective is compelled to repeat that which it suppresses and so creates a process in which intentional actions produce unintended as well as intended consequences.

Information, communication and organisation are terms that are fundamental to the thesaurus of modern systems theory (Buckley, 1967) but there is a developing debate as to their precise meaning. For systems theory, information is seen as a commodity which, when exchanged, serves the needs of both social actors and system, for whom it therefore has functional value. It is meaning and relevance of information *for the system* that is emphasised. In recent years, the critical interventions of post-structuralist thought have brought about a radical revision of the system-centered view of human discourse (e.g., Derrida, 1973; Foucault, 1970), substituting for it (1) a conceptualisation of language (the organisation of information and communication) as a process that actually originates and structures human experience in contrast to the functional view of language as a mere vehicle for human interaction, and (2) a characterisation of language as a structure of material marks or sounds which are in themselves "undecidable" and *upon which mean-*

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ing has to be imposed. I want to argue here that these conceptual displacements have significant implications for the way in which the social sciences understand social organisation and that the key concept for this analysis is information and its correlates of communication and organisation.

The current mobilisation in the field of information technology seems likely to be accompanied in the social sciences by a closer look at the nature of information itself. Already there are signs that this is happening, especially in that intellectual movement identified as "postmodernism" (a form of poststructuralism) which seeks to ground information and knowledge in a process of perpetual demurrage and instability (e.g., Lyotard, 1984). Of course, informational and cybernetic concepts are now part of the tradition in several areas of social science such as the psychology of information-processing (e.g., Attneave, 1959) and social anthropology (e.g., Lévi-Strauss, 1966), as well as systems theory. What seems to be new in the present questioning is the recognition of an implicit and therefore hidden assumption in the traditional approaches: that of an origin or source which provides a legitimating order for the processing and understanding of information. In social science, this covert assumption is most evident in systems theory where the concept of an ordered system legitimizes everything that comes within its purview, to such an extent that "system" is deemed "natural." Postmodernism reveals that such systems are based on a metanarrative which privileges unity, simplicity and communicability (Lyotard, 1984). One could go further and suggest that the real object of systems theory is *systemness* per se—individuals, groups and societies are simply media for the expression of systemness. This observation reveals a significant tautology: in taking systemness as such as its object, systems theory repeats what it sets out to understand. Repetition, as we know from psychoanalysis, is that process which presupposes itself (Lacan, 1977a) but which gives the impression of revealing that which is already objectively constituted in the external world. In systems thinking, a presupposition of systemness organises the world in its own image and this has important consequences for how we define information. Let us note that information theory itself defines information in terms of probability: that which is least likely gives the most information. Now, probability is the expression of an assumed pre-existing order which rests on the idea of the expected and the certain, i.e., the recurrence of that which is already known. Like repetition, probability is a form of prediction or prior awareness which defends the system against the strange and the unknown; the system is therefore incapable of dealing with information that is non-probabilistic and unpremeditated. Information in this latter sense has the character of surprise, of a sudden and involuntary seizure of the attention by a force beyond conscious control—such as the "inflashing" of spontaneous insight that Heidegger (1949/1977) contrasts to the patient building-up that characterises rational-instrumental knowledge and

the similar instantaneous process of unconcealment-concealment through which the psychoanalytic unconscious reveals itself (Lacan, 1977a). The possibility of surprise is represented in the informational formula which reduces uncertainty to unpredictability. Prediction and control become definitive components in the transformation of information into systemized knowledge. As such systemized knowledge, systems theory is itself predestined to neuter and exclude the eruption of information that would spell disaster for its own reassuring certainty. Surprise as the deconstruction of a familar order can only emerge if there exists an attitude which permits a degree of distantiation from the routinising or normalising operations of the system.

Since such normalising pressures appear also to structure the sciences as producers or reproducers of "normal" information (e.g., Kuhn, 1970), one is tempted to ask to what extent the social sciences themselves are characterised by the very objects which they study and the degree to which their language and concepts are mobilised (perhaps at times unwittingly) in order to master the uncertainty intrinsic to information in its material aspect (i.e., the undecidability of the material mark referred to above). Much of Heidegger's work can be seen as an analysis of the suppression of surprise in modern life (including science) in which key ontological concepts have become "empty words and evanescent vapours" of a language that is worn out and used up and which is now merely "an indispensible but masterless means of communication that may be used as one pleases, as indifferent as a means of public transport, as a street car which everyone rides in" (Heidegger, 1935/1959, p. 51). In this process, language as the material expression of information has to be secured against the possibility of doubt and undecidability (Heidegger, 1949/1977, especially pp. 115–154). It would not be difficult to illustrate Heidegger's indictment from the literature of social science, especially that which is directed by the systems paradigm whose functional emphasis serves to expel the contrarieties endemic to social life and so to homogenize it. One outstanding common feature of systems-based thinking is its refusal to analyse the fine-grain of its key concepts, as though a hardening of the critical arteries afflicts the systemic mind when it observes its own fabric.

This recognition is reflected in certain well-known criticisms of systems-oriented sociology. In particular, the work of the sociologist Peter Blau has been censured for viewing social structure and social exchange in purely systemic-functional terms which gloss over the complexities intrinsic to social processes (Douglas and Isherwood, 1978). This glazing process can be clearly seen in Blau's (1964) work on formal organisation and perhaps especially in his glossing of the concept of "differentiation" in organisational structure. By differentiation Blau means the division of labour (specialisation) and authority. In the present context, the significance of Blau's approach lies in his attempt to pin down the concept of organisation through operational measures without

actually understanding the full significance of the concept of differentiation which appears to be the mainstay of his theory of organisation. We know from the work of Derrida (1973) that the idea of difference has a dialectical character covering a spatio-temporal complex which includes "to differ" (in space) and "to defer" (postpone in time) and that what is deferred in difference is the function of an original, undifferentiated whole. All this is excluded from Blau's picture because he does not stop to examine the ontological structure of his basic terms. Blau appears not to realise that the informational pedigree of a particular social analysis depends first on a thorough understanding of the onto-logic of its basic concepts. To the extent that one glosses over these, sacrificing the problematic in favor of systemic unity and ease of comprehension, then to that extent one leaves out a true understanding of social life.

Currently a new dimension is being added to this issue: systems theory seems headed for a new lease of life with the development of advanced information technology which enhances the possibility of actualising cybernetic models of "performativity" (Lyotard, 1984). The significance of performativity in relation to information and knowledge is that it makes possible the more efficient suppression of the surprise factor of information since more or less everything is administered according to a principle of *pre-formance* (i.e., performance). This is already a feature of those modern institutions we call formal organisations; but whereas up until the present time these have been largely concerned with the application of know-how to the administration and management of physical commodities (labour, raw materials), it seems likely that knowledge as an informational objective in its own right will chiefly characterise postmodern organisations. Already the instrument which structures and serves to maintain information as a domesticated and reassuring novelty, as opposed to information as the uncanny violation of the normal, organisation will increasingly become the pre-formation—and therefore routinisation—of system-relevant information on a world scale. In this context, information is not communicated but programmed—for what is already established through systematic pre-formation is unitary, simple and therefore comprehensive to all; the contradictions, paradoxes and other tropes that create surprise are ironed out and smoothed over; and dissensus as a feature of communication is illegitimated. It would appear that it is high time for the disinterment and resuscitation of information (and its components) as a pre-systemic possibility.

Information and Division

The concept of information is well-known though it is construed in different ways (e.g., Brown, 1969; Buckley, 1967). However, one can say with

confidence that information is essentially a *binary structure*, based on the idea of division. The human world is constituted by such divisions, e.g., man-woman, teacher-student, day-night, summer-winter, etc. There are two ways of interpreting division: (1) by placing the emphasis on the two separate terms, or (2) by focussing on the actual process of division itself. Experience suggests that people tend to do (1) i.e., they perceive the world in the disjunctive mode of systemic-functionalism. To focus on (2) requires a conscious effort in order to see that division is not merely an act of separation but is also an undifferentiated state in which its terms are actually joined together, i.e., *division both separates and joins*. In fact, it is the act of separation which, paradoxically, creates the perception of something that is also whole or unitary. This observation—of fundamental significance in understanding the nature of information—can be more clearly seen in reversible figure-ground patterns such as Rubin's (1921) double profiles which illustrate the separation-wholeness paradox of information: a rectangle is divided into two halves by a wavy line running down its middle. Either the right half can be seen as a human face looking to the left or the left can be seen as a face looking to the right. While the separate faces share the same profile, at the same time they repress each other in the sense that the perception of one face is always at the expense of the other.

No longer a simple binary structure, information now appears as the sharing or alternation of a whole between two terms. It is the idea of alternation or reversibility that distinguishes information. With this recognition we have gone beyond the commonly held definition of information as merely useful knowledge and have revealed its ontological structure. The reversibility of Rubin's profiles suggests a model of information which reveals the latter's essentially interactional, even dialectical, nature: a process in which form (each face) is wrested out of non-form (the shared line which fuses—and therefore confuses—the two profiles). Form is: bounded, framed, fixed, certain, finite, made firm. Non-form is: infirm, informed, vacillating, uncertain, infinite.

It is instructive to note how the form/non-form relationship is traditionally dealt with in information theory. Form is given privileged status, so that non-form is treated as a purely abject process. For example, in Attneave (1959, p. 1) we learn the "uncertainty" is tantamount to "ignorance" (i.e., not knowing the probability of an event) and that "shared information" (or "interaction") is defined as a problem in predicting the transmission of information from one or more variables to another in which the transmitted information predicates (states beforehand) its own outcomes, i.e., repeats itself.[1] In other

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[1]A related argument is that of the economist Shackle (1969) who poses the problem of uncertainty in terms of *possibility* rather than probability. *Probability* is foreknowledge based on a complete list of hypotheses as to the future state of a thing or event; probability is thus closed to possibilities which are not included in the list. Shackle's characterisation of probability is therefore similar

words, information is that which is added to what we *already know* and it is therefore the *already known*—the presupposition—which, as we have noted, repeats itself. Information becomes the exorcising of doubt through the apotheosis of certainty or the "solace of good forms" (Lyotard, 1984, p. 81). Information theory can offer no insight into the real nature of the uncertain, which requires that quality which the poet Keats (1947) called "negative capability"—"when a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason" (p. 72). To understand uncertainty in this latter sense it is necessary to turn to Freud's mapping of the unconscious in psychoanalysis.

Psychoanalysis and the Uncertainty of Information

Psychoanalysis can be viewed as a complete reversal of information theory; whereas the latter, as we have seen, approaches the uncertain from the perspective of the certain, psychoanalysis maintains that the certain may only be understood as a derivation of the uncertain, i.e., the unconscious. The unconscious *causes* form not in any lineal, determinative sense but as an originating void or chaos ("cause" comes from the Greek *chaos*[2]) which has to be covered over, as it were, to remain covert. Without elaborating the obvious complexities behind these brief points, some insight into the vacillatory and uncertain character of the unconscious can be obtained from Blanco's (1975) representation of it as a structure of infinite sets. Drawing on the mathematician Dedekind's definition of the infinite set, Blanco distinguishes the unconscious as that which treats relations as essentially "infinite" (unfinished, unformed, uncertain): in infinite logic, relations are symmetric, i.e., the converse of any relation is identical with the relation and therefore the part is identical to the whole. The work of the painter Magritte provides some of the most striking examples of such infinite structures (see Foucault, 1982): the representation of a pair of women's shoes takes on the shape of the feet that they are meant to cover (*La Philosophie dans le Boudoir*); a ship at sea not only looks like a ship but its hull and sails are composed of the very waves it rests on (*Le Seducteur*); the leaf of a tree assumes the shape of the tree so that one sees the tree as the leaf (*L'Incendie*). However, the fact

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to the logic of repetition we have noted in systems theory. Possibility is similar to the poststructuralist conception of information and language as essentially "undecidable."

[2]In early Greek thought *chaos* was defined as a gap of *infinite* space; it is the infinitude or uncertainty (see discussion of infinite logic below) of *chaos* that *causes* (i.e., urges or forces) the subject into a state of conscious certainty. Lacan (1977a, especially Chapter 2) discusses the concept of cause as a "gap" of the unconscious that *drives* the subject to fill its "hole" with the orderly work of consciousness. It is this sense of cause which leads me to suggest its relationship with *chaos* as a state of incompletion that impels the actor towards a state of completion.

that one normally sees Magritte's pictures in art galleries or books helps to neutralise their surprise or shock value for there they can be denied their uncanny, disquieting power by being dismissed as mere works of artifice.

It is precisely this infinite dimension of the unconscious that is responsible for the experience of surprise as a revelation of the uncanny. Such is the pervasiveness of the systems paradigm in those social science disciplines that deal with form, structure, uncertainty, etc., that it is necessary to go outside institutionalised social science in order to find that literature which has kept alive the tradition of information as the "infinite" source of surprise and shock: psychoanalysis (Freud, Lacan), philosophy (Foucault, Deleuze), art (Magritte, Rauschenberg), literary theory and semiology (Hassan, Barthes). But it is perhaps in the work of Freud that we find the richest source of enlightenment on the complex ramifications and dynamics of this facet of information. In his essay *Beyond the Pleasure Principle*, Freud (1920/1955) argues that the unconscious is characterised by a "compulsion to repeat" itself. In the example of repetition we have already used, the repetition compulsion is expressed in terms of the literature of systems theory which presupposes a system existing in its own right "out there." However, a basic uncertainty informs the relationship between systems theory itself and the systems it purports to talk about so that it is not possible to say *with certainty* which term is the actual system; a kind of vacillating interaction occurs between the two to produce an uncanny merging that causes surprise such as we also saw in Rubin's alternating profiles. The conscious mind functions as a protective shield against threatening stimuli from the outside world by ordering these in *certain* (i.e., "knowable") spatio-temporal arrangements; by this means consciousness reduces or completely neutralises the surprise or shock impact intrinsic to stimuli in much the same way that the uncanny content of a Magritte painting undergoes censorship.

In thinking of information as a reversible whole that vacillates between two terms, we highlight two forms of action: (1) a *primary process* which is a conflation and negation of the individual terms—the interactive mix of the common line in Rubin's profiles, and (2) a *secondary process* which suppresses primary activity by accenting the individual terms—the separate faces of Rubin's figure. Information can now be more formally conceptualised as a dynamic relationship *between* primary and secondary process. The significance of psychoanalysis—especially in the present context—lies in recognising that human action revolves around the primary/secondary interaction. Furthermore, psychoanalysis represents the primary/secondary complex as a subversion of that rational mode of thought which privileges conscious control; instead, consciousness is viewed as being subject to an autonomous and automatic force (Freud's *Trieb*) which, already built into the very mark of difference as an alternating structure, impels the subject to come down on

either one side or the other; paradoxically, choice itself, at this level, is forced on one, i.e., the subject has no choice but to be conscious.

The principle of the unconscious as a manifestation of the forces inherent in difference has been exhaustively articulated by Lacan (e.g., 1977a) who has also brought out the temporal uncertainty characteristic of primary process which reveals itself only through the sudden stealth of surprise. (The classic example here is the joke which takes us unawares in what Freud [1905/1960] describes as an automatism that is beyond rational control). Information in the psychoanalytic sense, then, is uncertainty which reveals itself only in the unconscious moment of surprise where there is an unexpected experience of obstruction or failure in that which normally makes sense.

Communication as the Discourse of Difference

Communication is normally understood as the transmission of information between two terms. But if information is defined as the division of a primary system (a reversible whole), then communication has to be understood as a process which is characterised by the division of that primary system. In fact, communication can be quite properly seen as a continuous attempt to fill in the gaps and holes (note the reversibility at work in the meanings of *whole* and *hole*) made in the primary process by the secondary process.

Social life is characterised by what may be called "taking on the differences." Difference is simply another way of talking about information (Bateson, 1972). The process of taking on the difference can be seen spelled out in Freud's work on sexuality, for one of the first and most significant differences in human life is the early recognition of the male and female signs. Taking on the difference then proceeds throughout social life: teacher-pupil, friend-enemy, producer-consumer, etc. Thus, entry into the social system occurs by taking on the difference. A difference, as we have also argued, structures a primary reversible whole (i.e., a non-difference) which, however, can never be directly and immediately known since its realisation depends upon its being differentiated or divided. In other words, the primary whole is always a lost whole, one which we can only see through the work of division. The recognition of male-female difference, for example, leads back to the idea of a lost androgynous state which can only be known mythically. Such lost states represent the "originary voids" that constitute the informational project of communication. Reference to Rubin's double profile will help in understanding this idea. One profile is necessarily always incomplete because it shares the same space as the other profile so that neither profile can share the same space *at the same time*, that is, the *other* is always lost; but since it completes the other *other* it must be found again, although the logic of the primary process has to deny this possibility. Communication is therefore always based

in the experience of lack or loss (see also Cooper, 1983). Communication now becomes a process in which two partial terms are trying to find some sense of wholeness. It is no longer the mere functional transmission of information or signs.

This approach aligns communication with language. It is central to the anti-functionalist argument presented here that language itself is structured around the sense of a primal lost unity or originary void; it is not just a vehicle for social exchange. Etymologically, "language" is cognate with a series of words which derive from the Greek *logos*, whose root gives *lack, link, linga*, etc. In semiology and structural linguistics, language is seen as the communication of *signs*—but a sign is simply another name for a division, a difference, or a distinction. When one signifies one distinguishes, hence the act of significa-tion is that of dividing a prior undifferentiated whole. This is the basis of social organisation where people relate to each other (i.e., *signify* to each other) the needs or lacks created by the structural necessity of division. In short, a language is premised on some such conception of a lost whole or lack.

It is precisely this intuition of a relationship between language (or com-munication) and loss that the young Lukács (1974) brought out in his essay on "Longing and Form," especially in the idea that form is always a kind of longing or desire for completeness: "Longing and love are the search for one's own lost other half" (p. 92). Lukács was but a step away from linking the etymologies of "longing" and "language" for to long is to want to belong and belonging is a form of communication. Lukács' idea that form is a desire for completeness is simply another way of expressing the psychoanalytic view of informational uncertainty (the unconscious) in terms of infinite logic (see previous section): the infinite is complete by virtue of its mutuality between part and whole which is resistant to division and separation. Lukács' image of form thus echoes the completeness of Rubin's shared profiles.

To help us formalise these general insights on the relationship between language and lack, we can draw on de Saussure's (1974) view of language as a system of differences in which the human subject is portrayed as an effect of the language system rather than its cause; this is the same as saying that the speaking subject is realised through the mechanism of division or infor-mation and, far from being a self-sufficient unit in itself (i.e., a whole), is iden-tifiable only through its differences from other terms in the system. What is more, these differences are inscribed as social marks upon the human sub-ject's material body and property (in effect, the process of taking on the dif-ferences already mentioned); this is how the subject is enabled to "speak" to other differences in the system. Since the subject's actualisation of itself is so utterly dependent upon the mark of difference, it would be more correct to say that the subject *is* difference.[3] In other words, language is not rooted

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[3]To say that the subject *is* difference is to locate the origins of its actions in the vacillations

in the object per se, in the external and objective world, but in the act and process of division which inaugurates the active subject as a lack which seeks its completion in the lack of the other.

In his discussion of the function and nature of speech and language in psychoanalysis, Lacan (1977b) explicates a similar thesis, particularly in the dictum that language is the discourse of the other. Lacan expresses the essential process of repetition at work in language in the following lapidary sentence: "Human language . . . constitutes a communication in which the sender receives his own message back from the receiver in an inverted form" (p. 85). Thus, when a subject states "You are my wife" he marks himself with the seal of wedlock and designates himself as a husband. Speech always subjectively includes its own reply, says Lacan, and in this way repeats *itself*.[4] Implicit in this model of communication is the idea of *agonistic interaction* in which the active subject has to struggle (sometimes playfully, sometimes seriously) with the appropriating other. Agonistics is not a form of relationship which can be comprehended in the traditional information-theoretic conception of communication. As Lacan points out,

> the more the function of language becomes neutralised as it moves closer to information, the more language is imputed to be laden with *redundancies*. This notion of redundancy in language originated in research that was all the more precise because a vested interest was involved, having been prompted by the economic problems of long-distance communication, and in particular that of the possibility of carrying several conversations at once on a single telephone line. It can be asserted that a substantial portion of the phonetic material is superfluous to the realisation of the communication actually sought. (Lacan, 1977b, p. 86)[5]

Thus, economic and technological exigencies cast in the systems mode expunge the factor of excess, on which agonistics rests, as a useless redundancy. Interestingly and in a different context, Lyotard (1984) makes a similar criticism: "the trivial cybernetic version of information theory misses out something of decisive importance . . . : the agonistic aspect of society" (p. 16). The cybernetic model of an informational system which epitomizes the performativity criterion of systems theory is aptly exemplified by Lacan (1977b) in the language system of bees as decoded by Karl von Frisch. When the bee returns to its hive from gathering honey it communicates to its co-workers the location and distance from the hive of the honey source by means of

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and automatisms of informational uncertainty as defined above; this denies the common conception of the self as a subject that is relatively self-sufficient, more or less in control of its own actions and capable of exercising rational choice.

[4]The pronoun "it" comes from the Latin *idem*, which means the "same," and, as *identidem*, "repeatedly."

[5]Lacan no doubt refers here to the work of the telecommunications engineer R.V.L. Hartley in the 1920's, on which was founded the later development of the mathematical theory of information.

highly routinised dances which are in effect signal systems. But these signal systems, precisely "because of the fixed correlation of their signs to the reality that they signify" (Lacan, 1977b, p. 84), do not include that property of unconscious repetition that especially distinguishes the language of human subjectivity as an activity of renewal and decline. What is repeated is subject to the law of informational loss for what we already know cannot inform us; the joke said again loses its power of surprise. Repetition is therefore a demand for the new and unknown which results from the decline or decay of information into the customary and habitual;[6] the language of bees works precisely because it *excludes* the unknown; human language works for the reason that it *includes* the unknown.[7] Furthermore, while these stereotyped messages determine the behaviour of each bee as a locus in the network of performance, there is no retransmitting of the message to another bee. "This means that the message remains fixed in its function as a relay of the action, from which no subject detaches it as a symbol of communication itself" (Lacan, 1977b, p. 85). In other words, there is no repetition from which agonistic interaction can emerge.

All this permits us to advance the idea of there being two basic (but here didactically exaggerated) models of information and communication underlying current conceptions of social organisation: (1) a *systemic-functional model* in which psychic and social energy is fast bound in a fixed system of signals which leaves no room for agonistic interaction and surprise; information is already constituted by the fixed relationship between signs and referent; performativity is the key criterion, which makes the system fit only for busy bees; it is as though Freud's secondary system had been wrenched from its symbiosis with primary process and preserved in aspic (from the Greek *asphyxia*); and (2) an *agonistic model*, marked by the contestation of differences, in which psychic-social energy runs freely to subvert the idea of there being a permanent seal between sign and referent and hence to reject the idea of a fixed, unchangeable totality or meta-system; information is seen as an infinitude and therefore full of surprise; rules come *after* the event and not *before*; secondary system works with but follows primary process.

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[6]The *again* (or repeated) is a *gain* in the sense of interest added to information in decline. Information theorists intend this meaning when they define information as "that which adds to a representation" (MacKay, 1969, p. 163) but the terms "again" and "gain" also imply a contestatory relationship such as we find in the Greek *agon*, meaning a struggle of interests (see also related discussion of form as that which is wrested out of non-form or undecidability).

[7]The argument here is more complex than space permits but it is taken further by Lacan (1977a) in, for example, the idea the human structure is caused by that which "does not work" (p. 22 and passim), i.e., the undecidable; by Wollheim (1968, Section 56) in the distinction between code and language; and at a much earlier period by the Italian philosopher Giambattista Vico (1668-1744) in the view that one's relationship to the world has its fundamental motivation in uncertainty (*homo non intelligendo fit omnia*) rather than in a fixed and stable certainty (*homo intelligendo fit omnia*); see Brown (1973) for an elaboration of Vico's view.

Organisation and Its Objects

All information "can be stored and transmitted only by being inscribed on a matter-energy base" (Wilden, 1982, p. 2). Social organisation includes the transformation, use and exchange of matter and energy. It also includes the production, consumption, exchange and reproduction of information (Wilden, 1982, p. 2). Organisation, therefore, works at two levels: the material and the informational. But there is a sense in which the informational level is more basic than the material level: matter-energy can only be conceived and expressed through information, for in order to know it one must name it (as we do here, for instance). In other words, information subjects matter-energy to the process of division described earlier. Now, a definitive feature of social organisation is that human beings themselves constitute a significant component of the matter-energy base; that is, human beings constitute the raw material of their own organisation so that they too are subjected to the process of division that characterizes information. They thus pose to themselves the paradox of self-identity which faces any subject that is compelled to take itself as its own object.

This question can be further elaborated in Brown's (1969) example of the physicist whose subject matter is the physical world. The world described by the physicist "consists of a number of fundamental particles which, if shot through their own space, appear as waves . . . and other wave forms called electromagnetic which (travel) through space with a standard velocity" (pp. 104–105). Now the physicist him or herself is made up of the very factors he or she describes and is bound together by and has to obey the very laws that he or she records. The world (i.e., the subject, subject matter) thus appears to be constructed in order to see itself. In this process, the world

> must first cut itself up into at least one state which sees, and at least one other state which is seen. In this severed and mutilated condition, whatever it sees is *only partially* itself. We may take it that the world undoubtedly is itself (i.e., is indistinct from itself), but, in any attempt to see itself as object, it must, equally undoubtedly, act so as to make itself distinct from, and therefore false to itself. (Brown, 1969, p. 105)

The state of being indistinct from itself is equivalent to the unity or wholeness which we suggested earlier is basic to the communication process of social organisation and which, as Brown indicates, is lost in the subject's obligatory act of dividing itself from itself.

The logic of this position can be more clearly brought out through the example of the symbol. The symbol is essentially a material mark (such as these letters on this page) which is characterised by an intrinsic division; Rubin's alternating profiles represent such a symbol. As a divided mark, the symbol is evenly informed, i.e., it contains within itself its own opposite. Typographers, for example, recognize the same idea in the enclosed white backgrounds of

printed letters which they call counters. The opposite or counter is really a "sub-version (turning under) of the surface upon which it is written" (Brown, 1969, p. 100) and is therefore a formation within (in-formation) of what it expresses. As such, the symbol "is thus informed in the sense of having its own form within it, and at the same time informed in the sense of remembering what has happened to it in the past" (p. 100). The symbol is thus the precursor of the more complex and varied forms of information that we find in social life. However, these latter may only be taken as tokens or expressions (the common understanding of symbol) of some other more primitive form whose sub-ject (since it lies under) they represent. From this perspective, information is intrinsic to and already contained within the symbol. Significantly, information is not a product of the social agent, rather the reverse since it is the agent who is produced by the symbol. More radically, we may say that in assuming the symbol (or taking on the differences), it is not the agent who "thinks" but something more fundamental, namely the structure of the symbol itself. In this sense thought is automatic and the thinking agent repeats an act over which he or she has no direct, conscious control. The symbol thinks itself. In its thinking, the symbol follows a double action: it censors (to cense, a now obsolete word but cognate with "sense," which meant "to think") or strikes out its opposite or counter while at the same time necessarily hiding and thus preserving that which it censors; moreover, it must do this continuously or repeatedly.

Information thus divides the subject into an *active* state that sees, thinks, etc., and a passive state that is seen, thought, etc. The paradox of self-identity is that the state of seeing or thinking can never see or think itself, for when it tries to do so it must necessarily take itself as its own object and thus lose sight of its active subjectivity. It is appropriate, therefore, to distinguish two forms of the subject: the *primary subject*, unconscious and indeterminate, and the *secondary subject* which is in effect the object of conscious, determinate thought. Human organisation is now more specifically the process of producing and reproducing the *objects* (which are also *objectives*) by means of which a group or society can see or think itself; for this reason, Lévi-Strauss (1966) defined social objects as "good to think with" rather than merely goods to use or consume.

It will be clear from this analysis of symbolic structure that the symbol is based on the infinite logic which, as we noted earlier, Blanco (1975) used to characterize the unconscious and in which relations are symmetric, i.e., the converse of any relation is identical with the relation and therefore the part is identical to the whole. This conception of the symbolic especially reveals its "self-interfering" character which also epitomizes Derrida's idea of undecidability: that which contains its opposite and thus refuses any *singular* grasp of its meaning. Thus, this aspect of the symbolic is a refusal of thought

since thought can only emerge in the perception of singularities. It is precisely this suppression of self-interference or undecidability which Zipf (1965) argues is constitutive of the *object* or *objective* in human action. Thought is always harried by the intrinsic opposition observed in Rubin's profiles so that, as Zipf notes, the perception or pursuit of one aspect precludes or frustrates the perception of the other aspect. The function of the object or objective is to close off the other or second aspect in order to attain what Zipf calls the singleness of the objective (p. 3). It is this that characterizes a basic principle of human action which Zipf terms the principle of least effort. The sophism here is that least effort is not an act of efficiency or even of laziness but is essential to the self's process of realizing itself by detaching itself from the vacillating duality of the symbol; in order to be and to act, one has to take the lesser part of the whole. Now, wholeness in this context is the same as Brown's condition of indistinctness noted above and this is also another way of thinking about Zipf's observation that the object's singularity can only be realised through the suppression of another potential object with which it is compounded. In other words, the object is the result of an activity that counters or strikes out its double; in this sense, the object is that which *objects*, otherwise it would be so entangled with *itself* that it would be lost to knowledge. The subject (whether individual, group or system) is necessarily an object constructed out of the uncertainty of division in order to provide a stable identity which is lacking in the primary subject. The surprise and shock experienced at the uncanny character of the primary has now to be seen as a potential danger to the subject since, in its continuous vacillations (its doublings, splittings and fadings), the primary's very appearance eludes perception and hence implies a crisis of cognition and of phenomenality. It is this crisis that organisation seeks to avert through the *construction* of objects of knowledge. Now, every construction is also a *preparation* (Bachelard, 1934) and that which is prepared is a form of defence *in advance* against the uncertainty of the primary (see also discussion of information and probability). Lacan (1977a, p. 214) reminds us that the *par* of "prepare" means to defend, to be vigilant. Conscious knowledge is not now merely fixed and certain information but a structure for deferring surprise; one must *take* surprise, as it were, and not be *taken* by it, and one does this by *pre-venting* (i.e., coming *before*) it. Thus, the object of organisation is never just a utilitarian product or service as it is conceived in the naive interpretations of the systemic-functional model but rather the preparation of objects by means of which the system can distinguish itself from its primary subject and, therefore, be certain of itself.

Modern Organisation and Performativity

It is said that industrial societies are entering a new phase in the social-economic process in which the commodity as the discrete object of produc-

tion is being displaced by systems of information and knowledge. In *The Coming of Post-Industrial Society*, Bell (1973) charts the case for the new social forms based on information and knowledge. In the first instance, the change is from a goods-producing to a service economy, especially in the areas of health, education, research and government. The knowledge that characterizes these areas is essentially *theoretical* and it is this fact that marks off post-industrial society from previous societies. Of course, earlier societies depended on knowledge, as all societies must, but the nature of that knowledge was non-theoretical, intuitive know-how, often handed down from generation to generation. The chemical industry is cited as the first of the truly modern industries to illustrate the intricate linking of science and technology: it is necessary to have a theoretical understanding of the macro molecules being manipulated in order to bring about chemical synthesis (the recombination and transformation of compounds).

Post-industrialism tends toward a more systemised society in which people live increasingly commutual existences, bound together by their dependencies on organised systems which run on information. This entails the need to master "scale" or the distribution of information over space and time by means of new technological devices such as real-time computer information or new kinds of quantitative programming (Bell, 1973). The general effect is to reduce differences by making everything instantaneously present and, therefore, unitary. But performance rather than size is the distinguishing feature of post-industrial systems. The defining feature of performance is what Bell calls the economizing mode, most clearly seen in the idea of productivity: more for less effort and/or less cost. The special significance of the modern corporation is that it has created and universalized the idea of performance as a *mode of ordering social relations*.

It would be wrong to limit the analysis of functional rationality to the simple pursuit of efficiency per se, for what is really presented here is a *modus vivendi* as well as a *modus operandi*. It is not the mere fact that modern organisations are mechanisms for pursuing their objectives efficiently that is significant but rather that they have created, maintained and indeed universalized the idea of efficiency as a way of life and thought. In short, they *objectify* the systemic-functional model. In this conceptual switch we see that functional performance has been raised to a principle of performativity (Lyotard, 1984). Performativity may be superficially concerned with systemic efficiency and rationality but its latent purpose is to authenticate its own solidity through the suppression of difference. Let us recall Derrida's (1973) definition of difference as that which—divided in space and time—has no unity. Lyotard's point is that the optimization of the relationship between the system's inputs and outputs is really the optimization of unity and the suppression of difference. In speech act theory (Austin, 1962), the performative is a statement

that executes the act to which it refers; it represents the translation of words into action *without delay*; sign and act are bound as one and *affirm* each other; they are thus beyond question. In this sense, performativity is concerned with the optimization of a set of imperatives which, since they are "already constituted" (i.e., pre-formed), are experienced less as commands and more as exigencies of the natural order of things.

Conceived as the suppressor of difference, performativity is a major theme in the work of the culture analyst Walter Benjamin (1973), especially in his criticism of the mechanization of modern life: "The invention of the match around the middle of the nineteenth century brought forth a number of innovations which have one thing in common: one abrupt movement of the hand triggers a process of many steps" (p. 176). The telephone and the camera are also cited. Taylorism, which popularised the slogan "Down with dawdling!," represented the early formalisation of performativity in the modern factory through the discovery of "laws" of work governing the most economical motions in the shortest possible time. In the same terms, Benjamin quotes the poet Valéry who prefigured the human and social consequences of postmodern information technology: "Just as water, gas and electricity are brought into our houses from far off to satisfy our needs in response to a minimal effort, so we shall be supplied with visual or auditory images, which will appear and disappear at a single movement of the hand, hardly more than a sign" (p. 221). Performativity contributes to the totalising tendencies of the system in that it reduces the differences (or delay) between human effort and production, thus glossing and smoothing over the uncertainties and paradoxes that constitute the very process of difference. However, as we have noted, it is a feature of human language that it must repeat that which it represses so that it is more correct to view the systemic-functional and agonistic models as alternate movements of the same process, which close and open on each other. We can picture this movement in terms of the repetition compulsion.

From Performativity to Orderability

Let us note that the compulsion to repeat is a call to *order*. The order in this case is the division that the subject must assume *in order* to know itself. Let us also recall that Freud's term for the repetition compulsion is *Wiederholungszwang*. It is significant for us that *Wiederholung* (repetition) draws together several separate ideas: "again," "against" (*wieder, wider*) and "collect" (*holen*), thus identifying repetition with recollection. Now, *wieder* is also cognate with the English "wide" and "wider" and thus suggests the sense of expanding in order to contain more; the repetition here is not mere recurrence of the same but invokes the idea of "least effort" in which an undecidable "double" is objectified into the "singularity" of a wider frame. We can illustrate

this operation through Rubin's profiles where the instability created by the oscillations of the shared faces is held in place by the *wider* frame of the page; without the support of the page's frame the observing subject would be lost in a vertigo of continuous vacillation. The act of recollection thus involves the subject in an act of division which entails two steps: (1) the *prior* preparation of an object (only) through which the subject can *later* appear to itself— "a retroversion effect by which the subject becomes at each stage what he was before and announces himself—he will have been—only in the future perfect tense" (Lacan, 1977b, p. 306); (2) the attenuation and simplification of the ambiguous and contradictory structure of difference, i.e., the finitizing of the infinite. All this occurs, moreover, through a call to order which is a compulsive force (*Zwang*) and which operates automatically and without our conscious knowledge. Thus, order is peremptory.

Using a conceptual framework similar to that of repetition, Simmel (1950) shows how the social collective comes about through the suppression of individual differences. As with the vacillations intrinsic to division, the individual is subject to chronic uncertainty and indeterminateness. In contrast, "the mass does not know the dualism of egoistic and altruistic impulses, a dualism that often renders the individual helpless and makes him embrace a vacuum" (p. 27). The function of the collective is to constrain these vacillations into a communal structure through the fixing of an average or mean value. Simmel tells us that this averaging process is not the same as the statistical:

> It is . . . misleading to designate the level of a society that considers itself a unit and practically operates as a unit, as an "average" level. The "average" would result from adding up the levels of the individuals and dividing the sum by their number. This procedure would involve a raising of the lowest individuals, which actually is impossible. In reality, the level of a society is very close to that of its lowest components, since it must be possible for all to participate in it with identical valuation and effectiveness. The character of collective behaviour does not lie near the "middle" but near the lower limits of its participants. (p. 37)

Simmel expresses this as a principle of community or social mass: "what is common to all can be the property of only those who possess least" (p. 37). This is clearly another way of thinking about the repetition compulsion, especially in the attempt by the collective to recollect itself as a subject through the containment of more with less cost and effort. In other words, simplicity is gained at the cost of lost complexity, which is precisely the function of the object in social organisation, *a function that is inversely proportional to the degree of difference in the subject.*

We thus see that Simmel's analysis is an extension of Zipf's principle of least effort into the social world where it enables us to connect the ordering process with communication since the social collective calls itself into a communicative order through the creation of objects which can be transmitted

with minimal social effort. In this state, the objects must take on the ap-
pearance of the *common* and the *ordinary* (i.e., the mean-ness of meaning).
Order thus slips into the ordinary (let us also note that "object" slips
metonymically into "abject," the mean and worthless).

The objectification of least effort is also analysed by Heidegger (1927/1978)
in his phenomenological study of time and being, in a way which both com-
plements and supplements Simmel's analysis of the development of collec-
tive discourse. In particular, Heidegger's concept of the "they" helps fill out
the collective work of averaging down. The "they" is not any specific group
or person; in fact, it is not any "one" at all, rather it is the neuter or the
fictional "Others." "By 'Others' we do not mean everyone else but me—those
over against whom the 'I' stands out. They are rather those from whom, for
the most part, one does *not* distinguish oneself—those among whom one is
too" (Heidegger, 1927/1978, p. 154). In other words, "one" is also included in
the "they" or the "Others" as an indistinguishable "average" value which pre-
empts any possibility of distinction.

> In this averageness with which it (the "they") prescribes what can and may be ventured,
> it keeps watch over everything exceptional that thrusts itself to the fore. Every kind of
> priority gets glossed over as something that has long been well known. Everything gained
> by a struggle becomes something to be manipulated. Every secret loses its force. (p. 165)

The "they" exerts an automatic force of exclusion on the remote and the
strange by simply bringing them close. The modern world is especially prone
to this form of closure in its concern with speeding things up and conquering
vast distances by electronic and other means. Exclusion and closeness become
aspects of the same process, for that which is closest to us is that which we
are normally least aware of. "When, for instance, a man wears a pair of spec-
tacles which are so close to him distantially that they are 'sitting on his nose'
they are environmentally more remote from him than the picture on the op-
posite wall" (p. 141).

The language of the anonymous and instantaneous "they" averages down
in a process of idle talk. (Heidegger intends nothing pejorative by "idle"—
rather, it should be understood in the sense of idling or taking things easy
as one does with the instantly simple and effortlessly comprehensible.) In idle
talk, the collective achieves the suppression of the infinite and unpredictable,
the uncertain and ambiguous, the strange and remote, so that collective talk
with its basis in common (i.e., communal) meanings is also that which already
knows:

> Idle talk is the possibility of understanding everything without previously making the
> thing one's own. If this were done, idle talk would founder; and it already guards against
> such a danger. Idle talk is something which anyone can make up; it not only releases
> one from the task of genuinely understanding, but develops an undifferentiated kind
> of intelligibility . . . . (p. 213)

In the concepts of the "they" and "idle talk," we see represented the subject/object dialectic whose terms, as noted earlier, complement each other *inversely*, i.e., the undecidable characteristics of the primary subject are curtailed in the collective in the direction of the communal properties of simplicity, clarity and stability (i.e., finitude). Moreover, as Heidegger's analysis reveals, the language of the collective "they" knows what it knows *in advance* and therefore can never be open to doubt and uncertainty.

We have said that the subject has to posit itself as an object in order to know itself, i.e., the object has now to be seen as the result of a realization technique (Bachelard, 1934). As Bachelard argues, the subject "instructs itself by what it constructs," i.e., the process of production feeds back to tell the subject what it is and it is in this sense that the subject has to re-collect itself. Bachelard calls the methods by which objects are created for scientific investigation, *phenomeno-techniques.*

It is central to the present argument that all knowledge (not just scientific) in society is subjected to *phenomeno-techniques.* What Bell (1973) describes as the priority given to information and theoretical knowledge in post-industrial society is in effect the development and application of phenomeno-technique to large-scale systems, i.e., the subject or system tells itself what it is by what it constructs and, therefore, embodies or realizes itself by means of the objects it makes.

Bell also states that performance and certainty are the dominant behavioural and cognitive modes which structure information and theoretical knowledge in post-industrial society. The argument presented here leads us to suggest that performance and certainty are logically related in the sense that performance expressed as a principle of performativity is a guiding and legitimating criterion for post-industrial systems, i.e., it pre-forms that certainty which realizes the system as subject. When Bell says that the rationalization and codification of information is *the* major problem for post-industrial systems, he neglects to include in his analysis the fact that this is essentially the problem of the system objectifying itself through its performance.

The object is the end result of a process of objectification in which the object is prepared for us as a perceivable and meaningful thing or event. In other words, the object is the product of a particular *way of seeing*, i.e., the creation of phenomeno-techniques. Heidegger (1949/1977) addresses the same problem in his essay on technology. For Heidegger, technology is not merely a set of techniques for accomplishing a specific purpose; it may be that for the functionalist but for the thinker it is, more radically, a way of both ordering and revealing the world. Modern technology makes active demands on the properties of nature (and human nature) which are then reinscribed as *resources* which are everywhere made to stand by, on order and ready for use. The earth is now reinscribed as a constant source of coal and ore. The field, former-

ly in the care of the peasant, now receives a technological meaning because of its place in the mechanised food industry. A hydro-electric plant is set into the current of a river. The plant orders the river to supply its hydraulic power, this then energizes the turbines which then activate the electric current for the power station which then dispatches electricity to factories, offices and homes. Here, the river is revealed as displaying the specific characteristics of an object that is for even on order, and which no longer appears to us as a landscape that provides a natural habitat. The object of modern organisation must always be already constituted for immediate and constant use, i.e., the real objective of organisation is orderability. In such ordering people must necessarily include themselves as raw material that serves as standing-reserve: they are reinscribed as human resources, e.g., as the supply of patients (i.e., raw material) for a clinic (Heidegger, 1949/1977). Through modern technology, modern organisation becomes the "making secure of a constant reserve" (p. 86) in order to calculate in advance and thereby make certain.

Heidegger's message is that organizing or ordering the world is no mere functional process but a form of *revealing*. This is what Bachelard means when he says that the objects of scientific research are the products of a phenomeno-technique. Such revealing is aimed at the securing of certainty through the making secure of a constant reserve. Furthermore, this process tends towards finality through the construction of large-scale systems of certainty which seek to master what remains of uncertainty: a continuous chain of terms is forged which must reinforce each term's certainty. Heidegger calls this process "the gigantic" (p. 135). The gigantic annihilates vast distances by airplane; through radio and television it casually sets before us "foreign and remote worlds in their everydayness" (p. 135). But the gigantic harbours within itself the seeds of uncertainty in so far as the striving for large-scale (even world) systems makes everything smaller. Heidegger quotes atomic physics in evidence. Today, he might also have instanced modern computers which calculate in billionths of a second. This is Heidegger's way of expressing what we earlier called the self-interfering character of the symbolic: that which contains its opposite and thus refuses any *singular* grasp of its meaning. Since organisation and object are also symbolic structures, they too are subject to self-interference. In essence, this means that the object or objective is fated always to repeat that which it censors and is thus paradoxically a process in which intentional actions produce unintended consequences. We can state this more formally in the language of modern physics and mathematics which tells us that (1) all decision-making has consequences which cannot be predicted because each decision has the character of amplification, i.e., it creates *more* choices and uncertainty rather than less, and (2) it is *not* true that uncertainty (lack of control) decreases as accuracy of information goes up—uncertainty actually increases with accuracy (Lyotard, 1984; Peitgen and

Richter, 1985). To the extent that post-structuralist information and organisation is thus contradictory and agonistic, it represents the anti-model of a predictable, stable system.

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