

THE APPLICATION OF NEOHUMANIST PRINCIPLES IN INFORMATION SYSTEMS DEVELOPMENT

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ABSTRACT

While increasing attention is being given to neohumanist principles in information systems development, much of the literature on the subject is enigmatic. Examples of neohumanist principles application are also lacking. In this paper, we attempt to articulate, in general terms, various neohumanist principles which can hopefully become part of the value system of the systems developer. Additionally, we offer four brief examples of research projects which illustrate how the neohumanist principles of mutual understanding and emancipation might be implemented in information systems development.

1. INTRODUCTION

There has been a growing interest in using neohumanist principles to gain a deeper understanding of the technical and social issues of information systems development (ISD). This interest has particularly focused on Critical Social Theory (CST). Whereas the attention given to CST has led to many interesting conceptual developments (cf. Lyytinen and Klein 1985; Lyytinen 1986; Lyytinen and Hirschheim 1988; Ngwenyama 1987, 1991; Lee 1991), it is not very clear how its maxims and principles can be applied in practice for two reasons. One, although there are a number of books on Critical Social Theory written by Jurgen Habermas and his colleagues, the language is fairly obscure and difficult to understand even for those with some philosophical background. Two, there is virtually a total lack of illustrative cases and procedural guidelines for practical applications of CST. Habermas himself has unfortunately not addressed this issue satisfactorily.

Therefore, this paper has two primary purposes: (1) to provide a brief overview of the major tenets of CST arising from our interpretation of Habermas' seminal writings and (2) to provide four brief examples of projects which illustrate how some key principles of CST could be implemented, particularly those associated with emancipation. This latter point amounts to a reinterpreting of the projects from the vantage point of Critical Social Theory. Note, however, that this does not require that the projects were actually informed by CST.

Although this paper is concerned with the application of neohumanist principles in information systems development, the notion of neohumanism itself needs some elaboration. Neohumanism may be described as a "paradigm" (cf. Burrell and Morgan 1979; Hirschheim and Klein 1989) whose assumptions are associated with seeking change, emancipation and potentiality, and with

stressing the role that different social and organizational forces play in understanding change. It focuses on specific forms of barriers to emancipation and urges us to consider possible ways to overcome these barriers when striving to put neohumanist principles into practice. Particular barriers are ideology (distorted communication), power and psychological compulsions, and social constraints. Since neohumanism is too broad a philosophical construct, we choose a specific theory as a vehicle for explaining the key principles of neohumanism: the Critical Social Theory of Jurgen Habermas and his colleagues. It was chosen because it is one of the most widely discussed and best documented (e.g., McCarthy 1982; Thompson and Held 1982; Habermas 1984, 1987).

2. EXPLICATION OF CRITICAL SOCIAL THEORY

Critical Social Theory starts with the assumption that people engage in two fundamental types of activities: **work** and **social interaction**. Both terms are analytical abstractions. In ordinary life, work comprises both; i.e., production and communication (cf. Wynn 1979). For analytical purposes, work, as used in this section, is defined much more narrowly as a type of human action, the underlying orientation of which is predominantly instrumental: to get things done in order to achieve given ends. This narrow definition has the advantage that the communicative dimensions of human action can be explored separately, giving them the weight that they deserve.

2.1 Communication

When the focus is on the communicative aspects of some type of action related construct (such as inquiry, participation, and the like), we shall speak of its "hermeneutics." The analytical separation of the hermeneutics of "work in the broader sense" from its instrumental, goal oriented nature is not to deny that both sides need to be considered together in practice.

More generally, hermeneutics is a process of understanding or the approach taken to interpret the meanings of alien "texts." (An example of a hermeneutic process is the way in which a court interprets the law to deal with a new case in a way which is consistent with prior rulings.) Anything that can be "read" counts as a text, in particular our psyche and actions or those of our fellow human beings. Hermeneutics can be descriptive ("how do we understand?") or normative. From a descriptive standpoint, consider the hermeneutic process as discussed in Bansler and Havn (1991). They suggest that a good understanding during software development depends upon the formation of a shared "operative image" and feelings of solidarity. Both can only be acquired through a "kind of apprenticeship." This implies that some amount of face-to-face interaction is crucial for the hermeneutics of cooperation in systems development (and other types of cooperative work). This is also supported by the experiments of Naur (1985a, 1985b) whose notion of a "theory of the program" appears related to the "operative image." Naur showed that in order to write "good software," programmers need to develop deep intuitive insights into the problem at hand. Naur referred to these insights as "the theory of the program" and insisted that this kind of theory cannot be adequately represented in any kind of documentation, but must be acquired by a period of apprenticeship with those already possessing the theory of the program. Both the operative image and Naur's theory of the program correspond to what in hermeneutic theory is called the "preunderstanding" that is necessary as a starting point for any process of interpretation. From a normative standpoint, hermeneutics aims at methods and tools which help to make sense of situations and texts that are difficult to interpret because no established meanings apply. As a normative theory, hermeneutics must guard against dogmatic claims of delivering the one and only correct interpretation.

2.2 CST and Work

Through **work** (in the narrow sense) organizational members participate in the struggle against nature to produce the material basis for their survival. More specifically, through technically efficient work, the participants reproduce the material basis for the particular way of life provided by "their organization" (i.e., the organizational resources from which the participants draw wages and other benefits). In work, everyone and everything is seen as an "object" to be manipulated, i.e., predicted and controlled. Objects, in this case, include people which are treated as production factors whose behavior is subject to measurement and control, just as inanimate objects. Conflict of interests are either denied or deemed to be dealt with by submission to organizational policies and work directives.

An essential feature of the evolutionary development of the human species is the *emancipation* of its members from those aspects of work which are *unnecessarily* burdensome. This involves overcoming natural constraints through technology. An example is flood control or replacing work in dangerous and physically unpleasant places by robots who can be maintained in the comfort of an air-conditioned workshop. Of course, true emancipation must be global, elites, even if well-meaning, must not buy their relative comfort at the expense of misery or alienation of others (as in Huxley's *Brave New World* or Vonnegut's *Player Piano*, for example). True emancipation means that meaningful forms of life exist for all.

2.3 CST and Social Interaction

The other activity, **social interaction**, is quite different. It deals with creating shared meanings and reaching "mutual understanding" in a network of communicative relations. It is predominantly oriented towards agreement in that mutual understanding relates to the need of people to share their views and have others agree to them. The solidarity of our friends and associates comforts us all and in return we are willing to make adjustments to our own opinions until a common basis of agreement is reached. If the primary interest is one of achieving consensual mutual understanding and agreement, then one must acknowledge the other person as a partner for human interaction rather than an object of manipulation. This is not to say that manipulation does not occur, but that it alters the way in which participants relate to each other.

Mutual understanding may be realized through many forms of communication which create shared meanings which are then stored as the stock of knowledge as part of culture and a person's "Weltanschauung." Individuals engage in a process of sense-making aimed at understanding one's culture, one's own psyche and the psyche of those with whom one interacts - that is one's kin, friends, clients and even enemies. An essential insight of hermeneutics is that all understanding depends on some preconceptions (Gadamer's "preunderstanding" or "prejudices") which are carried into interpretation and changed through it. Typically these prejudices come from one's background in a culture - the life world. Seeking understanding means to revise one's preunderstandings and these revised "prejudices" then become the basis of the next round of interpretation. This kind of iterative process is called the "hermeneutic circle" or simply the "hermeneutic," a synonym for the process of interpretation to seek understanding.

In order to build shared understanding, some form of interaction is crucial. For example through participation in design, shared understandings are built that help overcome problems - this is the hermeneutic aspect of participation. The emphasis on mutual understanding also suggests the need to establish social conditions which are accepted as good and just and thereby the consensual commitments are maintained which are necessary to regulate all human affairs: from the family to government and international relations.

Without mutual understanding and agreement, the organization could not continue for two reasons. First, the material reproduction of the organizational means is irrevocably based on reliable

communication through interaction in ordinary language. Hence the effectiveness and efficiency of work depends on a shared framework of meanings and values which can only be established through prior consensual interaction. Orders and rules cannot be understood – literally do not make sense – without a preceding hermeneutic. Second, without consensual commitment to a common base of values, norms and beliefs, the organization would be an unstable collection of individuals whose interests and perceptions happen to be sufficiently reciprocal to induce cooperation at the moment, but which could disperse or break into war at any time when the contingencies change. (This is not to deny the existence of such loose groupings; they certainly do exist but history shows that it is the more stable forms of cooperation which tend to survive.) Hence the need for mutual understanding is not only necessary to establish an efficient work arrangement through cooperation, but to hold the organization together as a broader maintaining entity with its separate identity. The expediency of realizing reciprocal, but purely egoistic human, interests through organizational arrangements is not sufficient to maintain the organization. This was already recognized by Thomas Hobbes who, in *The Leviathan*, introduced the notion of an irrevocable social contract to prevent dissolution of the social community into autonomous individuals who pursue their interests “by the law of the fist.” To maintain a consensually normatively binding contract, social interaction is crucial. Hence both work (for material reproduction) and social interaction for socio-cultural reproduction of community feelings and beliefs (the hermeneutic basis for work) are key imperatives of organizational life. Through ordinary language communication, the community bonds are reproduced (maintained) and mutual understandings are continually adjusted to keep pace with an always puzzling and at times threatening world.

Different types of knowledge are important for undertaking work and achieving mutual understanding. The engineering sciences, for example, improve our means of prediction and control and thereby “emancipate” us from natural constraints by proposing and testing technical rules. Through applying these, we achieve greater freedom from external needs and are more efficient at work. The cultural sciences, on the other hand, assist in understanding ourselves and others: history, literature, philosophy, psycho-analysis, and sociology serve to improve the understanding of ourselves and our fellow human beings and cultures. Their contribution is primarily to satisfy hermeneutics needs. They also *may* assist in revealing how we as human beings are governed and controlled, overtly and covertly.

2.4 CST and Emancipation

However, the cultural sciences do not necessarily contribute to revealing all forms of domination and the emancipation from bias and self-delusion, unless they are critical. One key issue is that we are caught in the web of our own language and customs and it is difficult to escape the blind spot of our own tradition – the cultural biases that have been handed down to use “in the way things are done.” How to overcome the mental and emotional prisons of our received culture and practices (including language) has been the key topic in the Gadamer/Habermas debate (cf. the summary in McCarthy 1982). Gadamer has argued that participation in *some* cultures is a prerequisite for all thought including critical reflection. However, social consensus can be based on fallacious assumptions (such as that slavery is a natural law) and ideological distortions as are maintained through limiting communication by the exercise of power. Both access to knowledge and the agenda of communication can be limited. Overcoming such internal and external compulsions is called “emancipatory.” This broadens the concept of emancipation from overcoming natural-physical constraints to include man-made (psychological and political) constraints. Henceforth we shall define emancipation as all conscious attempts of human reason to free us from pseudo-natural constraints. Pseudo-natural are constraints which operate by non-transparency or unrecognized “error” and therefore appear as if they were a natural condition. Non-transparency often is the result of reification which suppresses (i.e., through social “forgetting” or ideology) the human authorship of certain conditions or practices which then appear indistinguishable from natural law. Emancipation proceeds by revealing the sources and causes of the distorting influences which hide alternative ways of life. Emancipation “enlightenment” can also be achieved, for example, by

following the Socratic ideal of "know thyself" and "truth can make us free." The dominant orientation of emancipatory communication (or discourse) is the testing of validity claims of intelligibility, social appropriateness, correctness (truth), or justice. A historical example is science in the Age of Enlightenment: it was emancipatory in that it helped to free mankind from unwarranted dogmas and superstitions. It tested many of the validity claims inherited from the middle ages and found them wanting on many grounds.

In summary, whereas hermeneutics is concerned with interpretation and understanding ("sense-making"), emancipation is concerned with "correct" understanding. It is normative in that it proceeds by social criticism and aims at removing unwarranted constraints to social and personal growth. The hermeneutic sciences are better developed than those that might help with social emancipation. Critical reflection, psycho-analysis, historical reflection, comparative critique of literature and analysis of ideology are prototypical of emancipatory or "critical" sciences.

2.5 Critical Social Theory Principles and ISD

Information systems (and ISD) can support the achievement of the three noted features of human existence: work, social interaction (mutual understanding) and emancipation. Information systems development, which is consistent with the "functionalist" (cf. Burrell and Morgan 1979; Hirschheim and Klein 1989) ideals (and embracing the engineering sciences), show how to rationalize and make work more efficient. However, information systems development can play an equally important role in the realization of mutual understanding and social emancipation.

In pursuing mutual understanding the system developer elicits, through interaction, a shared understanding of the many obstacles to human communication. This implies that he must acquire an insider knowledge of the different viewpoints and existential situation of the different stakeholders. This can only be done by "dialogical interaction" (Habermas 1984) and not just by external "objective observation." Genuine participation is crucial. Obstacles, however, abound both in weaknesses of human personality (internal compulsions) and imperfections in the social-institutional context that shape the work situation (external compulsions). We shall refer to these types of compulsions also as *unwarranted constraints*. Internal compulsions are induced by psychological forces *internal to the individual personality*. They can be addressed through psychological counseling and group therapy such as leadership programs, and employee assistance groups. More intractable are external compulsions which to some degree are beyond the control of system developers or even the organization.

External compulsions are unwarranted constraints imposed by forces from the surrounding society or the organization. They are external to the individual, but not necessarily beyond his or her control. They typically require social action, i.e., coordinated action of groups of people that change the institutional arrangements and climate. That such is possible without changing society is obvious from even casual organizational comparisons. There are striking differences in the degree to which different organizations in the same region put stress on their staff (including managers), encourage or inhibit personal growth and self-realization, give remuneration, and so forth.

Systems developers should be aware of external compulsions for two reasons. First, system development affects society in many ways and to this extent must be held accountable for perpetuating inequitable social conditions (cf. Bjørn-Andersen et al. 1982; Grewlich and Pedersen 1984). There can be an accumulative effect if many small companies in an economic region change their ways, for example, by turning to participatory approaches in educating their work force. Large organizations have a strong direct influence on the community in which they exist both through what they do and through their leadership role (by the way they affect the perception of others, e.g., by welfare capitalism or its opposite). Large corporations can sometimes create a

societal island that is better or worse than the macro society. To the extent this applies, a large system development project may change societal conditions.

Second, if societal conditions are beyond the reach of system development, the developers must be aware of these conditions and how they affect and limit the benefits of ISD. Project goals must then be formulated which are realistic with regard to the limiting factors. If major issues exist, they ought to be brought to the attention of the highest levels in the organization. Through ISD, organizational life is changed, but the rationality of this change is heavily constrained by social influences which channel the values, perceptions, work rules and other norms of all participants. Unwarranted distortions of communication and thinly disguised power structures may be effective, which could be revealed and overcome through enlightened system change. If information technology could remove some of the obstacles to free and unrestrained inquiry, then systems development could contribute to human emancipation from the subserviency of organizational power.

It is therefore paramount that system development gives careful attention to unwarranted constraints from within the organization. As these are external to individuals, organizational arrangements may need to be changed. Courses of action that focus on selected individuals, such as leadership programs or employing consultants on specific issues, are likely to be ineffective. Often, organizational compulsions take the form of communication difficulties. Typical examples of this are:

- Use of authority and illegitimate power that creates anxieties and causes people to distort or withhold information in order to protect themselves.
- Presence of peer opinion pressure ("group think"), which tends to create tunnel vision for the sake of protecting loyalties. This reduces the validity of judgements by suppressing possible validity checks through criticism.
- Misallocation of time and other resource that prevents adequate, democratic access to knowledge or information. This includes the common situation that knowledgeable people remain silent due to lack of motivation to participate because of work overload or the socially created need to withhold important information unless it is to one's advantage to engage in a debate.
- Social differentiation, in particular differences in the level of education and other forms of specialization, which creates difficulties in understanding the relevance and implications of organizational plans, memoranda and the like across hierarchical levels or departmental and professions boundaries.
- The influence of the prevailing organizational culture and incentive system.

In pursuing the ideal of emancipation, the systems developer seeks to develop information systems which lead to an emancipation from all unwarranted constraints and compulsions (e.g., psychological, physical and social) toward a state of justice, freedom and material well-being for all. Such information systems would need to facilitate the widest possible debate of organizational problems among the most knowledgeable actors to implement the best policies which establish truly shared objectives and an authentic consensus on how best to achieve them. Such a debate, free of all social pressure, which has the best chance to correct psychological distortions due to individual bias, is called a "rational discourse" or "ideal speech situation." The goal of information systems is to help with the institutionalization of an ideal speech situation which in turn validates a consensus about system objectives and modes of design and implementation. The force of reason is the only force that operates under the conditions of a rational discourse.

The ideal speech situation would legitimate a moving balance between the three fundamental objectives of information systems development, namely improved technical control (i.e., work), better mutual understanding, and continued emancipation from unwarranted social constraints and psychological compulsions. Information systems should also seek to approximate a "rational discourse" about valid organizational goals and their implementation with regard to all areas including information system planning, strategy, design, and implementation.

The CST view of knowledge differs from its functionalist counterpart (cf. Popper 1972) in the emphasis it puts on socially shared and personal knowledge and in the recognition of different methods of inquiry that are appropriate for the different types of knowledge. In particular, it abandons the correspondence theory of truth in favor of the following version of the coherence or consistency theory: true is what "survives" (is least inconsistent with) maximal criticism and is comparatively best supported by (is maximally consistent with) all available evidence. The epistemology of neohumanism is therefore much more general than the empirical-analytical philosophy of science adhered to by functionalism.

CST assigns an equal role to the following three principal categories of knowledge. The first category is empirical-analytical knowledge, which is the object of research in mathematics and the natural sciences. In this regard, there is no difference to functionalism. The second category of knowledge consists of shared beliefs about "our" world: it includes knowledge about rules, customs, laws, values, and systems of ethics. The following three-fold, classical distinction from Kant helps to characterize this kind of knowledge. *Rules of skill* are mostly comprised of technical knowledge on how to accomplish given ends (i.e., how to drive a car or how to maintain a home); rules of skill are prototypical of empirical-analytical knowledge and easily subjected to a means test. *Rules of prudence* are concerned with knowledge of good long term policies in the conduct of personal and community affairs. They require wisdom that is acquired through a life of trial, error, and reflection with social institutions. *Categorical rules* require wisdom and knowledge about ultimate values and ethical principles. Both rules of prudence and categorical rules are prototypical of knowledge about our social world. The third category of knowledge consists of personal insights: only you can know how you feel, whether you meant what you said at the last party, what you thought before going to bed last night, and so forth.

In summary, systems development embracing CST would emphasize critical inquiry into the deficiencies of the conditions of human existence and suggest possible improvements at three levels: the institutional environment of the organization (local community and society), the organizational policy level, and the project level. Such emancipatory inquiry is nurtured in the arena of a rational discourse, where all three categories of knowledge can be brought to bear. Checks and balances on all three categories of knowledge are needed to guard against social biases which might create unwarranted constraints and to allow 'undistorted communication' to occur. This means that both the physical and social barriers to a rational discourse need to be identified and removed. A successful system, in this context, is one which permits a better approximation to an ideal speech situation than the status quo. Information systems development proceeds through the application of the principles of hermeneutics so that there is an improvement in comprehensibility and mutual understanding by removing misunderstandings and disagreements or other obstacles to human communication.

Unfortunately, current systems development approaches do not typically possess tools that are supportive of neohumanist goals, although in some approaches or projects, for example, ETHICS (Mumford 1983), PORGI (Oppelland and Kolf 1980), SSM (Checkland 1981; Checkland and Scholes 1990), MARS (Lanzara and Mathiassen 1984), FLORENCE (Bjerknes and Brattetieg 1987), UTOPIA (Bodker et al. 1987) and DEMOS (Ehn and Sandberg 1983), there is some recognition of communication barriers and possible therapeutic measures, and the SAMPO project (described below) moves some way toward supporting the emancipatory goal. But this does not mean that systems development could not support emancipatory discourse. Indeed, the four

research projects discussed below are suggestive of how systems development could embrace neohumanist ideals.

3. FOUR ATTEMPTS AT IMPLEMENTING CST IDEALS IN ISD

In order to assess the possibility of systems development embracing CST ideals, particularly that of emancipation, and to suggest what such development might look like, we turn to the recent theoretical research literature. It is here that we find four approaches which appear to recognize the need for mutual understanding and, to a greater or lesser extent, emancipation.

3.1 Kerola's Reconceptualized Systems Development Process Life Cycle

The first approach attempts to reconceptualize the project life cycle as a learning process in order to strengthen critical reflection and self-insight based on feedback from concrete actions. Kerola's (1985, 1987) basic idea is to superimpose the systems development process life cycle on the stages of knowledge acquisition and learning in Kolb's (1984, Kolb and Fry 1975) experiential learning theory. This promises to make all participants better aware of the social situation in which systems development takes place and is a precondition for successful cooperation. The theory focuses on the bias of differing cognitive styles which people develop as a result of their genetic inclination, past experience, and social conditioning. As opposed to the Jungian cognitive style inventory, we are not locked into one style forever. We can achieve higher levels of growth by "increasing complexity and relativism in dealing with the world and one's experiences, and by higher-level integrations of the dialectic conflicts between the four primary genotypic adaptive learning modes - concrete experience, reflective observation, abstract conceptualization, and active experimentation." (Wolfe and Kolb 1971, p. 544). Each of these learning modes emphasizes different skills; for example, to learn from concrete experiences one "must be able to involve herself/himself fully, openly, and without bias in new experiences" (Wolfe and Kolb 1971, p. 540). This is consistent with the desire for mutual understanding and learning, as well as Habermas' notion of an emancipatory discourse.

Applying Kolb's experiential learning theory, system development aims at achieving growing cognitive and interpersonal skills coupled with better self-awareness among all participants (Kerola 1987, 1988). If this could be practically implemented in systems development, it would first help with the emancipatory concern of having all participants possessing an equal chance to express their feelings, attitudes, beliefs, doubts, etc., by creating a pool of mature peers. It would also further a climate in which the distorting influences of the social context are mitigated, because the maturity of the personalities of all participants also provides some safeguard against undue social pressures. However, it is not clear whether this theory can totally shake the individualistic bias that is common to learning theories. In particular, there is no focus on the potential distortions and complexities introduced through representative forms of participation in ISD. Kerola (1988) does suggest role rotations in order to implement the four "genotypic adaptive learning modes," but in practice this may not be possible. Without concrete cases or a clear outline of how systems development would proceed, however, the merits of this approach remain elusive. It is, nevertheless, a promising research program that may point the direction for further work.

3.2 MARS Project

The second approach comes from the MARS project (Lanzara and Mathiassen 1984) which also takes a learning perspective of systems development (and use), but focuses directly on the reflection of working practices. The starting point is an explicit recognition of the chronic deficiencies of

working practices in any group. Various tools (diagnostic, ecological, virtual, historical "maps") are suggested to help record and reflect upon these practices (Lanzara and Mathiassen 1984). Maps provide different interpretations of a situation which help to see possible ways of acting in this or related situations. While the theoretical underpinnings of the MARS approach have not been fully articulated, we may infer something about them from the hypothetical portrayal of various system philosophies in Mathiassen and Bogh-Andersen (1987). They appear to include socio-linguistics, a critique of relativistic hermeneutics and some critical insights from Habermas. These foundations are sufficiently powerful to see how they support the goal of mutual understanding but are somewhat less clear on the theme of emancipatory systems development. This is perhaps best summed up by the researchers on the MARS project when they state "Our deepest concern is to understand the variety of systems, artifacts, processes and situations in order to improve our ability to: (i) evaluate experiences, (ii) identify practical problems and issues, and (iii) suggest relevant actions" (Keil-Slawik and Mathiassen 1988, p. 1). In distinction to Kerola's approach noted above, the MARS project has provided some case evidence regarding how its principles and tools work in practice, but is very much in its infancy regarding how it can be used in systems development (cf. Andersen et al. 1990).

3.3 UTOPIA Project

The third approach comes from the UTOPIA project (Howard 1985; Bodker et al. 1987; Ehn 1988), where emancipatory principles are very clearly expressed but the goal of mutual understanding is less clear, except in the most recent writings (cf. Kyng 1991). By articulating the voice of skilled labor (craftsmanship) a number of issues are placed on the agenda of systems development (such as retaining the values and way of life of a craft with a long historical tradition) that the economic pressures of a market economy have so far suppressed. The theoretical foundations of this research program include a critique of rationalist reasoning, dialectical systems thinking (Churchman 1971), neo-marxism ("The questions that must be asked are questions that support actions to overcome historically and socially produced suppression," Ehn 1988, p. 198 with reference to Kosik 1967) and Wittgensteinian language theory. In spite of its impressive theoretical underpinnings (and as is the case with the other examples above) it is not clear how this approach applies to general systems development. Moreover, the theory is not applied in a way to balance the interests of all stakeholders. The UTOPIA approach itself could lead to new distortions because it takes a partisan view, i.e., the skilled labor union perspective, while true emancipation is aimed at all generalizable interests. Recent developments in this approach, however, do appear to reduce the importance attached to "overcoming historical suppression" focusing instead on cooperative design between all parties in the development exercise which necessitates the use of tools and techniques to support sense-making and mutual understanding (Kyng 1991).

3.4 SAMPO Project

The fourth approach comes from the SAMPO project (Lehtinen and Lyytinen 1983, 1986; Lyytinen and Lehtinen 1984; Auramaki, Lehtinen and Lyytinen 1988; Auramaki, Hirschheim and Lyytinen 1992), which aims at developing methods and tools which are consistent with both emancipatory discourse and mutual understanding. It radicalizes the idea that ISD means a change of "life form" (i.e., shared conceptions which facilitate understanding and existing ways of organization and work life), suggesting that it is important to consider three closely interlinked notions when developing information systems: life form, means of communication (in particular language and symbols), and understanding of the world through reinterpretations and creation of new meanings. The three are like three corners of a triangle. If one is changed the others change with it. The SAMPO project builds on this idea by viewing ISD as a process of normative linguistics - an information system is a rule system for exchanging prespecified meanings with an artificially contrived language - which requires methods and tools to model organizational discourses. Speech act theory has been used in this context. Tools are considered important because they are part of the life form and can

change both language and understanding. Through discourse modeling, the IS developer both reconstructs (in analysis) and then purposefully changes (in design) the organization's communication practices. This requires ISD to focus both on the intentions and social consequences of the form and technical means of communication.

Traditional systems development has primarily focused on the objects or events that terms and symbols "denote" or to which they refer. It thereby abstracts from the intentions and social conventions which govern the users' use and meanings of language from their own perspective. The latter is the "emic" (or within) view of the user's life form as opposed to the "etic" (outside) view of user interaction by an external observer. An analysis of denotations as practiced in classical data modeling is also important, but speech act modeling makes it clear that this is not sufficient. It must be supplemented by an analysis of intentions (illocutionary meanings) and the social consequences of communication acts (performative meanings). As is the case in the previous three approaches, it is not exactly clear how the SAMPO principles are to be applied in systems development, but it seems to have the potential of supporting both mutual understanding and emancipatory discourse - both key neohumanist principles.

4. CONCLUSIONS

There are a number of reasons to believe that the importing of neohumanist ideals in ISD, as proposed in this paper, could bring about a significant change in systems development. This claim must be interpreted with some care. A common sentiment appears to be reflected in the following critical reader comment:

The paper is a good contribution to the existing debate about the application of neohumanist principles. However the most fundamental shortcoming...is its lack of suggestions, methods or means of how to bring these conditions about. Even with references to ETHICS, SOFT SYSTEMS METHODOLOGY, PORGI and MARS, the authors do not examine the strengths and weaknesses of the methodology steps with reference to the achievement of neohumanist principles.

This criticism can be applied to a whole genre of intellectual work of which this paper is only a small piece. More fundamental pieces of this genre are Plato's "Republic," J. St. Mill's "Essay on Liberty," or more recently, Rawl's "A Theory of Justice." If seen in this light, the above criticism reveals a fundamental misunderstanding that can be illuminated with the example of implementing democracy. There is a close analogy between principles of democracy and neohumanism, in fact democracy depends on implementing some key principles of neohumanism. For example, democracies must attempt to provide for emancipation through a generally accessible, quality school system and for using rational discourse to inform policy making by the institutions of a free press and parliamentary bicameralism. However, just because democracy cannot be properly implemented, we do not throw out the ideal. In fact, history has borne out several times that the ideal of democracy has brought significant changes in the practice of government. In analogy, we claim that the ideal of emancipation could bring about significant changes in the way organizations are governed and that would include the design of the information system to support organizational government.

The analogy to implementing democracy also cautions us to be skeptical of realizing neohumanist ideals in ISD through methodologies. Just as there are no methodologies to bring about democracy, so it may be inappropriate to call for the deployment of neohumanist methodologies to bring about neohumanism. Just as democracy thrives through living traditions and wise practices, so neohumanist principles could flourish through emergent traditions and enlightened practices of ISD. Of course, there has been much research on the importance and effectiveness of methodologies and the jury on the final judgement of the potential of methodologies is still out. However, a number of classical and recent research reports support the attitude, that the call for

developing new and better methodologies is probably misguided and may be counter-productive, even though such calls abound in the literature (cf. Olle, Sol and Tully 1983; Olle, Sol and Verrijn-Stuart 1982, 1986; Olle, Verrijn-Stuart and Bhabuta 1988; Maddison et al. 1983; Klein and Hirschheim 1991).

It now appears clear that ISD methodologies are not followed by practitioners as described in manuals or other forms of documentation (Episkopou 1987). This is true even if the methodologies were developed as a standard for the organization in question. This was found by the MARS project in the course of studying the professional practices of system developers in Denmark in four different companies. Furthermore, it appears from a longitudinal, ethnographic study of more than one year that methodologies do not at all serve the ostensive purpose for which they are designed: plan the work effectively. Instead, Low (1992) found that methodologies fulfilled seven purposes, none of which contributed to effectively organizing the work of the systems developers nor filled the need for a reliable schedule that allowed the systems development team to predict their work progress.

Moreover, it can be argued that the orthodox methodologies (such as structured methodologies), if followed, can produce undesirable and unintentional consequences because they are much too narrow in scope and unduly restrict the consideration of all factors that are important for the success of system development projects. Such a view would likely be argued by Mowshowitz (1976) and Gladden (1982), who report that over 50% of the information systems built are failures.

According to Vitalari and Dickson (1983), successful analysts consider many aspects of system development projects that fall outside the scope of current methodologies. For example, they must pay attention to organizational politics, how the project relates to various business priorities, how it affects the situation of user groups, and how it fits into the general organizational atmosphere.

It is evident, then, that current methodologies are problematic in that they do not pay sufficient attention to power and politics, tacit knowledge of organizational expertise and social sense-making, value choices and how they affect the personal interests of various stakeholders. It is our contention that systems development could change significantly if neohumanist principles become adopted as part of the developer's belief system. This paper has attempted to articulate, in general language rather than philosophical terms, various neohumanist principles which hopefully can act as a compass pointing the direction future systems development could take.

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