# COMPUTERIZATION IN A POLYCENTRIC ENTERPRISE: A CASE STUDY[1]

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This article presents results of a case study based on a proposed implementation within a large franchised merchandising operation. Among findings are that the organization is characterized by a loosely coupled communication system. Attitudes were generally found to be positive, although respondents exhibited limited knowledge of the technology. A complex mixture of franchiser-franchisee relations is discovered. The article concludes with an argument for greater attention to the development of communication theory.

Cet article présente les résultats d'une étude de cas concernant le projet d'informatisation d'un réseau de franchises. Nous constatons en analysant les données que l'organisation étudiée est caractérisée par: un système de communication faiblement intégré, des attitudes positives envers l'informatisation, bien qu'à cet égard les connaissances et l'expérience des acteurs sont plutôt limitées, et finalement des relations franchiseur-franchisés pour le moins complexes. En conclusion, les auteurs insistent sur la nécessité de mieux poser la problématique de l'informatisation sur une théorie de la communication plus riche.

## Introduction: Breaking with the Decontextualized, A Historic View of Organization

Much of the conceptual basis for contemporary thinking about the computerization of work takes the form of an idealization: that of a "normal" office situation. As long as we treat this idealization as an incontrovertible premiss, it may seem plausible to speak of the "functions" of the new communication and information-processing technologies, as if such functions existed largely without variation across most situations. Indeed it is probably *only* by introducing such an idealization that general planning strategies applicable to a wide range of contexts can be made to take on an appearance

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of rationality. By and large, the literature on office automation has been found to be based on this convenient abstraction (Katambwe, 1987; Taylor, forthcoming; Taylor & Katambwe, 1988).

The work to be reported in this article has been guided by a different conviction, namely that the unidimensional conceptualization of the abstract object commonly called an "office" serves largely to foster an illusion—the kind of illusion on which to base an advertising campaign, for example. While there is perhaps no harm, for rhetorical purposes, in thinking of the administrative workplace by the introduction of an "ideal type" abstraction, such an idealization is a singularly poor starting place for understanding the implementational dynamics which go into actual experiences in computerization, as real people in real situations have to live through them. It also represents an inadequate basis for planning such an implementation.

We have thus made a number of core assumptions in our work which are essential to an understanding of the results of research to be reported in this article. We take it as given, among other things, that:

1.  Every office (and every organization) has a fundamentally contingent character (Lawrence & Lorsch, 1967), in that its patterns of behavior and its culture reflect the particular circumstances that presided at its formation, and are operative in its current environment;

2.  While, in this general sense, the assumption that organizations have stable properties can be justified, many organizations nevertheless evolve perceptibly over time, such evolution being a potent source of internal tension, and even conflict;

3.  Not only do particular organizations change their structure and behavior over time (particularly during periods of rapid growth), but it is also possible to observe evolution in modal organizational forms (Stinchcombe, 1965), and the conceptual models that serve as metaphors for them (Morgan, 1986), from one generation to another, such prevailing models having a strongly prescriptive, legitimizing effect in determining what is considered acceptable, and what is not, at any give time;

4.  Once adopted, an organizational pattern is not only a) a utilitarian division of labor, for the more efficient conduct of the organization's main work, it is also b) a mosaic of situated professional practices (with their associated images of the proper conduct of work and the nature of the professional status and personality), c) a confederation of more or less tightly knit work communities, each with its own local culture (Suchman, 1987), all linked together in a more or less loosely coupled (Weick, 1976; Weick, 1982; Weick, 1985) transorganizational network of communication (with attendant problems of coordination), and d) a differentiated political structure (Crozier & Friedberg, 1977), characterized by a pattern of rights and duties, supported by legitimating understandings

having a more or less explicit contractual basis, and involving internal com-
petition for the spoils of enterprise, however mitigated their explicit manifesta-
tion may be.   There are thus several logics at work, not necessarily all
mutually compatible.

Innovation, in such a universe, is a complex event, which requires local as well as
global adaptation, a reshaping of the professional's image of his or her own role and
status, a repatterning of day-to-day interaction, and political negotiation. In this sense,
our work breaks with a second widely held image to be found in much of the office
computerization literature,[2] which pictures the technological innovation event as quite
straightforward, requiring only the evaluation of user needs, a scanning of the available
product options, a system design by a team of experts, and support and training for the
user community during the implementation phase. Our view of the process is less tidy:
we tend to conceive of it as taking longer than anyone initially expects, having
numerous false starts, almost always based on incomplete or inaccurate information,
much more involved with politics than is generally imagined and much less technically
self-assured. We see the introduction of computerization as posing risks for profes-
sional status, upsetting established work patterns and raising political issues of
considerable depth.  Similarly, we take it to be problematical to what extent such
secondary implications figure in the ultimate outcome of the attempted innovation.

The report of research which follows should thus be considered a contribution to
a more contextualist, situation-dependent theory of technological innovation than has
often marked the literature on the subject. In this sense, our work can be thought of as
figuring as a component within a recent move (Collective, 1988; Greif, 1988) to frame
the issue of technological innovation as a question of Computer Supported Cooperative
Work (CSCW), rather than as just one more step in the assembly-line industrialization
of work, or an extension of automation into new fields of production, i.e., as an
"information-processing" activity, subject to the same rules as other production
processes.

Our work also breaks with another common assumption in the computerization
literature, insofar as the latter conceives of the role of the social scientist in the
implementation process (when, indeed, it foresees any role at all) to be limited to 1)
contributions to the measurement of "needs" and 2) the assessment of "impacts" or
"effects". Such a conception assumes that the technology is already in its definitive
form when it has traversed the phases of R&D, manufacturing and technical design
(including in-house tailoring conducted by the systems group to fit local circum-
stances). We believe, by contrast, that no technology actually becomes a technology
until it has been put to work by a community of users, and hence, that the actual
character of a given technology cannot be determined by the specifications on the box:
its definition is necessarily contingent on the circumstances of its implementation.
From this assumption follows a quite different notion of the role of the researcher, in
that we take it for granted that the planning and implementation process is (or should
be, in any case) incremental and interactive, involving *both* systems engineers *and* the

user community. The role of research, in this view, is pro-active and mediatory, in that its objective is to arrive eventually at a definition of the organization's technology, and not to presuppose it. The further implication of this philosophy of research is to make the researcher a partner in an implementation enterprise, in conjunction with the host organization, which has elements of both intervention and of research, and which requires on-going negotiation of both relations and results, during the entire stay of the research team.[3]

A research project having these properties has recently been termed a "naturalistic inquiry" (Lincoln & Guba, 1985). Its methodology has traditionally been classified under the heading of "case study". As such, its approach is necessarily interpretative (Putnam & Pacanowsky, 1983) although, as we shall see in the case of an extended network, the actual methods used may be both quantitative and qualitative.

## Characteristics of the Study Situation

Organizations come in all shapes and sizes. Within the context of our own research programme, we have elected to focus our attention primarily on a kind of organization which has become increasingly prominent in the contemporary economy and which has been called, variously, a value-adding partnership, a cluster organization, or a constellation. While these terms are by no means completely synonymous, and while the phenomenon to which they refer covers a wide spectrum of enterpreneurial ventures, they all share in common one property: multiple nodes of entrepreneurship joined in a network arrangement which allows them to act like a single firm, driven by the pressure to compete when confronted by large-scale unitary companies who threaten to dominate the market. Probably the best-known exemplar of this form of organization is the franchising operation.

Our choice of franchising operations for a site of research has been dictated by two considerations. For one thing, the properties of organization described above which most distinctly contribute to its contingent character, including the continued existence of local professional values, the loosely coupled networking of local work cultures and head office operations, and the visible pattern of a political structure, all within the context of both explicitly negotiated and implicitly understood contractual arrangements, are exactly those whose effects on the capacity to innovate we want to better understand. We assume these to be factors present in every organization, but they tend to stand out more starkly in a franchise operation, and make research easier to focus. The second consideration is of a slightly different order. Some observers believe (Taylor, forthcoming) that the current discernible move to an information-driven economy is encouraging the progressive substitution of such value-adding partnerships or cluster organizations for more conventional quasi-bureaucratic structures, and thus any understanding we can gain of their dynamics may be of help in comprehending elements of the larger question of the impact of computerization on organizational life generally (an issue to which we will return briefly in our conclusion).

The franchise-based organization (for a more detailed analysis see Lafrance & Girard, 1989) works on a bipolar principle, linking a central company, the franchiser, to a network of smaller operators, the franchisees, with the franchiser holding rights to the company's name (in effect, its letters patent), and to a product or product line carrying its name, or trade mark. The franchisee operates a point of sale, part of the network, for which he or she has normally paid an entry fee which bestows an entitlement to unique distributorship for the company's products over a given territory and to the setting up of operations under the company's banner, with all the advertising benefits which accrue therefrom.

## The Historical Evolution of the Company Studied

The company chosen as the site for the case study to be reported in this article, and which we will call Solane (not its real name), was founded in 1969 by two partners, as a chain of discount outlets, distributing pharmaceutical and related products. It was not originally a franchise operation, and there were already five company-owned stores before a first franchise was added in 1973. As the network grew, however, the number of franchises quickly overtook the company-owned operations, although the latter were to reach thirty in all before declining to become relatively unimportant in the total picture.[4] In 1980, one of the partners sold out to the other. A period of rapid growth followed, and the network was to more than double in size over the next decade, reaching 100 franchises in all by 1986, and about 150 at the time of writing (during an eight-month research period alone the number of outlets increased by more than twenty). In 1986, the company went public, with the goal of raising capital to permit an extension of its operations into the United States. In 1987, a decision was made to computerize the general merchandising operations of the network, and the task of developing a system design for both head office operations and the franchises was turned over to a fully owned subsidiary called Parcom (also a fictional name). This was the point of departure for the present research, in that the task of evaluating the opportunity costs of computerization was assumed by the research team from the Groupe d'Intervention en Recherche Organisationnelle (GISCOR) from the Université de Montréal in partnership with the Canadian Workplace Automation Research Center (CWARC) in Laval, Québec, a wing of the federal Department of Communications.

Obviously, over fifteen years, an organization's culture changes. What those who were present in the network at the beginning remember—franchiser, franchisees and employees alike—was an era when everything had to be built from the ground up. It was a time, at least in some people's memory, when suggestions were welcomed (if not indeed actively solicited), because the network, in its own field a pioneer, was innovating almost daily. From 1973 to 1976, or thereabouts, several of the local franchise-holders regularly contributed their time to work at the head office on a volunteer basis, to serve on committees, or act as the people responsible for a given sector of activity. This loan of time could add up to ten hours a week in some cases. Head office staff was small, and tended to be nonspecialized: head office employees had none of the aura, or the inaccessability, of the expert and tended to be thought of

as people to whom one delegated responsibility for tasks which principals did not have time to attend to themselves. Franchise-holders felt an emotional link to the new enterprise that transcended purely operational considerations—a link made all the stronger by the fact that both franchiser and franchise-holders were members on equal standing of the same professional association. For those members of the network, the right to speak directly to the President, without passing through any intervening levels, seemed fundamental. The franchiser was merely *primus inter pares*—although quickly becoming a kind of folk hero to his network associates.

By 1976, as the network grew, things began gradually to change. Direct participation by the franchisees in head office operations was becoming a thing of the past, while head office staff started to take on a more explicitly specialized look. By 1980, the process was well advanced: head office had become a reality with its own personality, increasingly interposing itself as the communication relay between local entrepreneurs, and the chief executive. The reaction of franchisees was mixed: conditioned on the one hand by awareness of the need for an efficient, professional operation and yet balanced on the other by a dawning recognition of their increasing alienation from the true centers of power and decision making. Significantly, by 1979, the franchisees had moved to create an association called Toxedec (another pseudo-nym) to represent their collective interests, independently of the latter's definition by the chief executive. The formation of this group was also a reflection of turbulence at the top (the original partnership dissolved in 1980, it will be recalled) and considerable doubt about the future of the network. One press report, for example, had the owner prepared to buy out existing franchises. People who had only just begun to emerge from debt and to make a solid profit experienced considerable anxiety as they envisaged the future of the enterprise (and their place in it). The creation of Toxedec was itself to become a source of tension, leading the franchiser to attempt (without notable success) to set up a "consultative committee", independent of Toxedec, to air grievances which he privately thought exaggerated, if not outright "childish". His was necessarily the larger vision: building the basis for a commercial empire which he was not alone in seeing as of benefit to all members of the network. Even the people most suspicious of his motives recognized the need for his leadership. If the potential polarization never flamed into open conflict, it was, however, also in part because the power of Toxedec to focus the concerns of the local owners was constantly being diluted, during a period of spectacular growth (doubling in the space of five years), by the addition of new franchise-holders, ignorant of the network's history and as yet unsympathetic to the objectives of Toxedec.

Among the new members of the network were many previously autonomous owners who had little option to join or not to join, in that they could no longer compete with the larger network (and the economies of scale it offered) as independents. Since they could not beat Solane, their only real choice was to become part of it. A new source of tension thus became visible, this time dividing the franchisees as well: on the one hand, established owners were beginning to reap the benefits of the aggressive policies of the franchiser, which had established itself as the market leader for its region; on the

other, internal competition was becoming a reality, as store operators discovered that their profit margins were being cut into by the competition from down the street, in the form of another franchise-holder in their own network! Territorial rights to exclusive distribution, a trivial issue in the beginning, were beginning to loom large in the minds of both the franchiser (who now somewhat regretted his previous generosity) and franchisees (who were finding it difficult to guarantee what they took to be legitimate rights to an established turf). In the minds of the latter, the ratio of relative gains separating franchiser and franchisee as a result of expansion was widening: the network was visibly flourishing while their own margins of profit grew more slowly. Their diminishing influence was further emphasized by the increasingly visible intrusion of the head office bureaucrats into their own operations, of which the initial computerization of client files for prescription drugs in 1980 was but one example. More importantly, decisions as to employee salary scales were being taken by the Human Resources division at head office, leading local franchise-holders to complain about the latter's excessive open-handedness towards the people who worked in the local stores: "The money doesn't come out of their pockets", we were told, "It costs them nothing to give salary raises to the employees of the franchisees".

The problem with a "value-adding partnership", such as the franchise network we have been describing, seems to be that the "added value" is not necessarily distributed to the equal satisfaction of all the partners.

## The Operation of a Franchised Network in Practice

Solane offers a potential franchise-holder a contract, for a limited time period, automatically renewable in the absence of an explicit termination request by the franchisee. Originally, franchise-holders had first right of refusal when a new franchise was to be set up within their given territory. The practice of protected territories is, however, now becoming less common. Fees are owed to the franchiser for a variety of services (some optional, some obligatory), including administrative, financial, professional and technical, from which the franchisee is assumed to benefit. Fees are collected on a monthly basis, based on a percentage of gross sales. The books of the franchise-holder must be kept completely open to inspection by the franchiser and the "image" of the network must be respected at all times in any store's advertising and merchandising. The franchisee must buy all the products offered by the franchiser, which are billed on a cost-plus-overhead basis. Franchisees are obliged to display in their stores all products carrying the house label plus those for which Solane holds exclusive rights. Individual store owners may not set the sale price higher than that established for a product by the franchiser. In principle, franchisees have to deal exclusively with the franchiser in stocking their shelves. In practice, the situation is somewhat more complicated, in part for historical reasons. Operators are allowed, as a tolerated practice (in part because infringements are hard to police) to deal directly with outside wholesalers when the latter's products are not otherwise available in the company's warehouse.

The conditions of the partnership are spelled out explicitly in a number of company policies, which include the following.

• *The rental agreement:* in general, the franchiser is either the owner of the outlet (which is then rented to the franchisee), or holds a mortgage on it.

• *Obligation to buy:* by the terms of the contract, all franchise-holders must buy supplies from the warehouse of the franchiser for all products in the latter's catalogue, the percentage of such purchases not ever to fall below 80% of all sales.

• *Formal ordering:* whenever there is a house product available, or there exists an exclusive arrangement with a designated supplier, the franchisee is obliged to place all orders for products through the franchiser's warehouse.

• *Direct ordering;* some products with high turn-over are ordered directly from the authorized supplier by the franchisee, without passing through head office, although it is Solane which receives the bills and forwards them to the franchisee (after adding on a percentage as overhead).

• *Automatic forwarding:* some lines of goods, chosen by the franchiser, are automatically supplied to each outlet on a periodic replacement basis (no order being required), the quantity supplied being invariable across all franchise-holders, independent of size or location.

• *Pre-authorized payment (transfer of funds):* the franchiser has the right to transfer payment of dues directly from the bank account of the individual store.

• *Direct purchasing:* where a product is not available from the franchiser himself, the individual store is allowed (tolerated is perhaps the better term) to deal directly with outside suppliers, in which case it is the local store which is billed, and not head office.

• *Loss leaders:* each week, a certain number of products are selected as promotions at a price which the franchiser sets (and which may be less than the actual cost to the franchisee).

• *Company specials:* a certain number of products, which experience has shown to be important customer drawing cards, are offered regularly to clients, "friends", at advantageous prices compared to the competition, on the theory that while the margin of profit on these items is small, the volume of expected sales should more than compensate the local store operator for the reduction in price.

• *The golden age club:* customers 65 years old and over are entitled to a card which gives them discounts on certain products, although valid only on specified days of the month.

• *Local advertising:* franchisees may advertise in local newspapers.

• *National advertising:* national advertising is the responsibility of the franchiser, the costs being distributed to the franchises on a *pro rata* basis.

• *Distribution of circulars:* publicity in the form of circulars, designed to attract the interest of customers, is supplied to store operators on a cost-per basis, the latter being responsible for their distribution to clients, in the store or door-to-door, in their district.

• *Direct supervision:* in order to ensure conformity with the image and the policies of the network, management-selected supervisors (who may be ex-managers of stores) make regular inspection trips to the franchise, where they may also provide expert advice to the local operator on improvements to business practice.

• *The productivity index:* each employee's individual performance is evaluated on the basis of the time taken to effect a given task.

• The *customer advisory council:* regular after-hour get-togethers, to be organized by the franchise-holder in conjunction with selected customers and store employees in order to discuss store policy, all on a voluntary basis, are encouraged.

### The Existing Communication System

At the point of initiation of the present research project, there had already been in operation, since 1980, a system for the cross-network recording of information on a particular class of client, those ordering prescription drugs. All files on customers are stored centrally. Like many such systems, which link a mainframe to a widely distributed (and growing) network of dumb terminals located in the individual stores, severe problems of overloading have begun to become evident, and breakdowns are not infrequent (tending, moreover, to coincide with rush-hour business when the store is full of customers and system reliability becomes particularly important).

In conjunction with the computer system, the company had also installed an elementary facility permitting electronic mail. Transmission is, however, unidirectional, from head office to the franchises. Furthermore, messages, once transmitted, are immediately erased, and cannot be stored to be read later. Reception of messages thus depends on employee attentiveness. Since messages are received at the terminal, but are often directed to the store owner or manager who is elsewhere, the transmitted information runs a considerable risk of being either lost or garbled before it reaches its ultimate destination. Follow-up phone calls are almost obligatory.

The store operator is also the target of a stream of memos, color-coded to indicate the category of product in question, which serve to communicate vital operational data, including changes of policy, product availability, price, shipment schedules, and so on. All kinds of communication problems emerge from this kind of system. For one thing, policies on promotional campaigns, including which products will be marketed as specials and at what price, are decided well in advance, and distributed to the franchisees; unfortunately, such things as warehouse delivery snafus, unexpected price changes and revised decisions as to the preferred specials, intervene, with the result that the store operator may receive up to ten or more contradictory communications concerning the same product. The result is confusion, and a multiplication of

frantic telephone calls directed to head office (where the employees are also themselves subject to problems of crossed signals) designed to correct the situation.

Telephone communication is vulnerable to its own kind of parasitic noise. All too often, the individual at head office whom store operators have come to consider the person to whom to turn for information is in a meeting (if not transferred to another department). Given the resulting frustration, it is not surprising to discover a phenomenon of dysfunction (Merton, 1940; Merton, 1949), in that astute franchisees have learned to cultivate a network of chums in head office, in an effort to circumvent informational barriers by developing alternate sources. This is a luxury not available to all (especially to those physically located far from the center, for whom telephone costs tend to be prohibitive, and who can less easily recruit friends at court). And it is particularly frustrating for those older, established franchise-holders, who find it hard to reconcile themselves to the idea that they can no longer do their business directly with the President. Small wonder then that people in the franchises speak sarcastically of the Head Office "secretary barrier".

Perhaps the weakest link in the communication system, however, is that which is supposed to support ordering practices. Franchisees send orders to the franchiser using an instrument called Telxon. The order data are entered, hopefully without error, and stored to be transmitted overnight over an ordinary telephone line. Unfortunately, system reliability is not high and there is no way to detect failure. In addition, there is no certainty the order will be filled completely, even if it reaches the warehouse without incident. Warehouse shortages are not uncommon (15 to 20% is common, according to one informant). Since the store operator is required to use the company warehouse, the deficiencies in the system are particularly irritating. By the time the shortfall is discovered, there is no time to develop alternative sources. Not only is the profit picture directly affected, there is a risk of alienating regular customers.

Many stores in the network (about 50%, if our sample is accurate) have some experience in the computerization of office operations. In principle, the company systems development subsidiary, Parcom, was mandated some years ago to come up with an accounting system in response to franchisee expressed needs. In practice, their solution was slow to be developed, and not particularly well adapted to actual office requirements, for an interesting reason. In theory, customer transactions in this kind of franchise are either cash or credit card based. In fact, many stores run a line of credit for a certain number of regular customers, including schools, summer camps, etc. Furthermore, although the practice is discouraged, many franchise-holders have invested in other businesses, and may be running a second company from their office. For these reasons, store operators need an accounts receivable function in their software, which was not available on the company system. The result is a proliferation of computer systems bought externally.

## A Brief Description of the Research Project[5]

At the inception of the study reported on here, Solane had already decided to embark on a staged programme of computerization involving, first, two head office services (purchasing and the warehouse) and, second, a franchise function (cash registers). A time horizon for completion of the project was set at two years. Parcom was assigned the task of developing a project for ultimate approval by the executive council, to include an action plan which would define a calendar of implementation phases and determine costs. The project was also expected to develop and/or procure software to support general office operations in the franchises, to be made available to the latter on a voluntary basis, although the exact nature of the system to be developed was left open, in the absence of detailed knowledge of actual requirements. Fixed deadlines for the head office project were established. The role of the outside research team from the Université de Montréal was not specified in detail, other than to support Parcom in assessing the existing situation in the franchises.

Shortly afterwards, the first of what was to become a series of "changes of plan" (and adjustments to the calendar) occurred: the vice-president responsible for warehouse operations resigned and his functions were temporarily taken over by another vice-president, who was also responsible for purchasing. As a result, the warehouse computerization project was shelved for the immediate future, and the franchise project was moved forward on the agenda.[6]

In retrospect, the research project can be visualized as broken down by phase. The first phase aimed to familiarize the researchers in depth with the computerization project. Research took the form of unstructured interviews with planners and on-site observation of operations in the purchasing department. Phase II had as its objective to develop a qualitative understanding of the actual operations of a franchise, at the local store level. One of the researchers, accompanied by a member of the Parcom team, visited six outlets in order to determine the nature of operational practice in the stores, particularly with respect to office functions. These preliminary interviews were again unstructured, and were restricted to franchise-holders. The purpose of Phase III was to document a number of perceptions arising from the previous interview phases and to determine attitudes to computerization through a survey based on a limited questionnaire, the results of which were expected to support recommendations to the client organization, Solane. The survey was purposive rather than random, in that it was designed to include franchises varying in size (from 4000 to 12000 square feet in floor space), length of time in the network (average, 6 years; 5 of those interviewed had previously been members of another franchising operation), distance from the center, number of stores operated by a given franchise-holder (average, 2) and previous computer experience (slightly more than half, 57%). Respondents were interviewed at length in the field by a team of researchers using semi-structured questionnaires. In addition, respondents were encouraged to supplement answers by free-form responses to open questions. In all, 37 franchisees (operators of 74 franchises, i.e., roughly half of the total in the network at that time), 23 managers and 4 controllers completed the

questionnaire and/or were interviewed in some depth. Phase IV was given over to analysis of the findings, to produce three distinct reports: 1) an assessment of the opportunity costs of computerization, with recommendations, delivered to Parcom; 2) an evaluation of the political situation, for the attention of the President of Solane; and 3) a scientific report submitted to the Canadian Workplace Automation Research Center which was in turn supplemented by a Master's thesis (the basis of the present article).

## The Findings

### *The Computerization of Head Office: Purchasing*

Head office turned out to have been surprisingly little touched by the "computer revolution": there was, for example, no word processing facility at all available there. The almost complete absence of an overall computerization policy meant that while the head office accounting system was computerized, it was not linked to the purchasing service (much less to the franchised local outlets). The purchasing department's system was so out of date as to qualify as "old-fashioned", and had become quite inadequate to the increasing demand resulting from a growing operation.

At the outset of the present study, the implementation of a new system for purchasing was already in progress. Since purchasing is a nerve center for the entire network, the initial interviews and observations focused on the post-implementation dynamic as a means of beginning to comprehend the logic of the overall system. At the time, the staff of the purchasing department was composed of twelve persons, of whom six were buyers, and six assistants. Each buyer is responsible for a product line and it is his job to negotiate terms with suppliers. Since the suppliers are limited in number and are always more or less the same, there is a tendency over the years for the buyers to develop intimate social relationships with individuals they are in contact with on an almost daily basis and with whom they need to develop trust relationships for the efficient conduct of business, since there is an irreducible element of verbal agreement in this kind of contract making. Buying is a complex task, involving multiple variables, requiring navigation between the reefs of understocking (with the attendant risk of shortages) and overstocking (leading to excessive warehouse costs), the estimation of changing customer tastes, and the ability to negotiate volume discounts, or talk suppliers into company-specific bonuses. The assistant's task is to keep track of agreements, and to follow up on them, by verifying, for example, that the products ordered are actually received and by correcting errors where they occur. Disputes with suppliers over agreed-upon discounts are not uncommon, as the arrangements leave the hands of the negotiators, where there are implicit understandings, to be processed by the respective paper bureaucracies. The situation is complicated by the fact that the accounting department is in no position to verify the claims for discounts from a given supplier submitted by the purchaser. The company comptroller also gets into the act.

The principal objective of the purchasing department computerization project was not to link this service to the franchises, but rather to connect it to the suppliers' systems,

the latter being for the most part considerably further along on the path to computerization than Solane itself. The internal motivation seems to have been double: on the one hand to develop better follow-up on the agreements with suppliers, by making available information on what products had been ordered, in what quantities, at what price, and with what volume discounts. There seems as well to have been a second agenda, having as its goal to reduce the time buyers spend in the company of supplier representatives and the danger of a growing incestuous relationship, with its danger of special arrangements, not sanctioned by the company.

A description in detail on the effect of the introduction of the new system goes beyond this report. It will suffice to say that the new system was generally accepted by employees as an improvement over the old, with reservations: the software proved to be awkward (a cumbersome layered menu system), not fully representative of their operations (significant omissions), introduced with insufficient follow-up for learning, with the old terminals reserved for the most frequent users (the assistants, all females), a diminution of autonomy ("Everyone uses my machine, now") and a distinct loss of privacy (including the threat of computer monitoring of performance).

Ironically, for a system that was supposed to economize the buyers' time, one effect has been to build pressure for the creation of new assistant positions, given the more voluminous information now produced by the new computer applications.

For our present purposes, it is sufficient to note that: 1) the linking of the purchasing department to the franchises was adjourned to an indefinite future and; 2) since the warehouse is not computerized, there is no way to determine, by computer access, when stock is running low and should be re-ordered. "Just-in-time" management is not yet part of this organization's culture.

## The Computerization of the Franchises: The Cash Register Project

The intention guiding the proposed franchise project was to install a microcomputer in each store, linked to the cash register. In this manner, it would be possible to track immediately the volume of sales, by product line, across the entire network, on a day-by-day, or even hour-by-hour, basis, if necessary. The motivation for this innovation was to speed up the collection of dues from franchisees which, it will be recalled, are based on a proportion of gross sales, and are at present paid by the month. The current practice is to estimate dues for a given month on the basis of the previous month's sales, a subsequent adjustment being made when more complete information on the most recent performance is available, usually about two weeks later. The implementation of an on-line computer system would eliminate a step in the calculation of gross sales, one which now involves the local store. The effect would be to reverse the process, in that head office would now supply the local operator with statistics on his or her volume of business, rather than the opposite.

Parcom was also prepared to offer to franchisees a line of software packages for their individual office use, although the exact nature of the offering remained to be determined.

The proposed project was veiled in secrecy at the time of arrival of the research team (since it was clearly a head office initiative, and the eventual franchisee reaction was judged to be problematical). The round of interviews with six franchise-holders conducted by a member of the research team (accompanied by an employee of Parcom) thus constituted the first communication of the project to the franchise-holders themselves. All franchisees visited, chosen by Parcom, already had a computer facility installed in their store.[7] For Parcom, these interviews came to be seen as the basis for a proposal which they expected to make to a semi-annual meeting of franchisees, scheduled for six months later. The research project then became defined as the instrument by which to verify the receptivity of franchisees to their overall proposal, and to survey the latters' expectations for office software. Their immediate interest remained, however, basically technical: to determine the make of each cash register, whether it could be connected up to the network without serious modification, whether it already contained a computer facility permitting what is called automatic "price look-up" (PLU), what percentage of sales was based on credit cards (looking forward to the introduction of debit cards, permitting instantaneous fund transfer), etc. Where extensive replacement was involved, as a result of older model machines, the fear was that the cost to the local operator would generate opposition and slow introduction of the system.

*The Results of the Survey*[8]

The purpose of the survey undertaken in the summer of 1988 was in part to confirm a number of conclusions to which the previous unstructured interviews had led us, and in part to provide quantitative support for the report to be submitted to Parcom, on attitudes to computerization. The questionnaire was accordingly organized around a set of themes, including perceptions as to the functioning of the organization's current communication system, expectations with respect to the role of computers in admin-istration, and more general attitudes towards the company's general policies, the participation (or lack thereof) of franchise-holders in key areas of decision making and the trend towards a more centralized operation (with its associated implication of more active control of local operations by head office). Results, it will be recalled, were based on a sample of 64 respondents (37 franchise-holders, operators of 74 outlets, and 27 managers or controllers).

Overall, as expected, attitudes towards computerization were without exception highly favorable (averaging about 5 on a 6-point scale). Interestingly enough, there was a tendency for attitudes to be even more positive in operations without experience in computerization than in those with (although the effect is slight, given the overall response skew). Unsurprisingly, the more a respondent believed him- or herself to be competent in operating a computer, the more positive the attitude (roughly two out of five had some training in computer operation, though the source of learning was extremely diverse). Curiously, franchise-holders without computers thought of themselves as more competent than those with, while the situation is reversed for managers and controllers, who clearly are the ones in computerized operations to

become familiar with the operation of the system. A striking finding of this phase of the survey was that the longer a franchise-holder had been in the network, the less enthusiastic he or she was towards computerization (r=-.432, p<0.01). This effect was not due to age, which is uncorrelated with attitude to computerization.

Our previous interviews had led us to identify shortcomings in the communication system of the enterprise. The survey phase reinforced this perception. Just under 50% of respondents (49.1%), when asked for their computerization priorities,[9] cited either inventory control (28.2%) or ordering (20.9%). Both of these functions, we already knew, constitute major headaches for store operators. Neither figured high in the head office strategy to be developed by Parcom. On the other hand, Parcom's main priority, the computerization of cash registers (mentioned by only 6.7% of respondents at least once) was not listed as a major preoccupation of owners and managers. (It has to be noted, however, that "computerization of cash registers" meant something different to respondents than to Parcom, in that they perceived it as restricted to the in-store operation, and not as part of a network rationalization. Opinions with respect to the head office project were considerably more distributed among franchisees, varying from a "conditional" yes, 20%, to a partial agreement, 23%, to mild disagreement, 22%, to unconditional disagreement, 24%, with 11% undecided.) On the other hand, another Parcom priority, reports on sales by department, proved to be a franchisee preoccupation (mentioned by 9.1% of respondents) and was judged to be one of the most useful functions of a computerized operation equally by both managers and owners. Again, however, reports-on-sales was thought of as an in-store function.

Of respondents, 10.9% listed accounting software as a priority, but this figure reflected divergences in existing practice (14% for noncomputerized respondents, 6% for computerized). Functions such as employee schedules (8%) and personnel management (4%) attracted less attention. The overloaded memo system now in use was universally deplored. Projects such as electronic mail, a Parcom priority, elicited little enthusiasm. Parcom's role was itself a source of spontaneous reaction on the part of some respondents: their service was judged not good enough, too oriented to head office and too high-priced.

Among the questions we posed to franchisees were two designed to elicit opinions as to the relative advantage accruing, respectively, to the franchiser and the franchisees from the various company policies described above. The results tell us a good deal about the strains and stresses typical of a polycentric franchising operation. Asked, for example, to rank in turn, in separate questions, the profitability of each of the policies, the answers fell into groups:[10]

**Table 1**

*Comparative advantage of company policies to franchiser and franchisee, as perceived by a sample of franchisee respondents [11] (all figures are presented in terms of the mean response)*

|  | Perceived franchiser advantage | Perceived franchisee advantage | Difference |
|---|---|---|---|
| 1. *The hegemony of the franchiser:* | | | |
| The obligation to buy | 5.76 | 3.53 | 3.23 |
| Pre-authorized payment | 5.64 | 2.86 | 2.78 |
| The rental agreement | 5.55 | 3.53 | 2.02 |
| 2. *Advertising and public relations:* | | | |
| Loss leaders | 5.71 | 4.81 | .90 |
| National advertising | 5.66 | 5.26 | .40 |
| Company specials | 5.43 | 4.79 | .65 |
| Golden age club | 5.00 | 4.78 | .21 |
| 3. *Accepted business practice:* | | | |
| Formal ordering | 5.58 | 5.00 | .58 |
| Direct supervision | 4.89 | 4.30 | .59 |
| Direct ordering | 4.82 | 4.39 | .43 |
| 4. *Nuisance interventions:* | | | |
| The performance index | 4.47 | 4.09 | .38 |
| The customer advisory council | 4.23 | 3.57 | .66 |
| 5. *The franchisee's room to manoeuvre:* | | | |
| Direct purchasing | 2.26 | 5.00 | -2.74 |

This pattern of responses, reflecting the attitudes of half of the franchise-holders in the network, reads like a profile of network tensions. Franchisees' considerable sense of insecurity as "partners" in an enterprise where the senior member holds the best cards is reflected in the first group of policies, which all relate to the contractual conditions of adherence to the network, and which are perceived to be strongly slanted to the advantage of the franchiser. The second group is related to the primary benefit of a franchising system, as they perceive it, compared to the position of the independent: the ability to attract a clientele. Here the advantage is seen to be more equitably shared, except for loss leaders and specials both of which tend to work more to the franchiser's benefit more than the store operator, in the latter's view.[12] The third group of policies fall under the heading of "accepted business practice" and seem to be more or less accepted as the price of doing business in a network.[13] The policies related to customer advisory councils and the measurement of employee performance seem to be

classed under the heading of "silly interference by head office into the day-to-day operations of the franchises": if they do not generate more resentment, it is because they are largely ineffective, if not just ignored. The one non-official, "tolerated", policy where franchise-holders perceive themselves to have a real advantage is the freedom to occasionally do their own purchasing from suppliers, independent of the network. Nothing could better illustrate the mixture of motives characteristic of our respondents' attitudes towards their own network: considerable pride and loyalty, confirmed strongly in both our formal and informal interviews, in belonging to an enterprise which is among the most dynamic, and successful, of any in Canada today (certainly in its own field, merchandising), a recognition of the vulnerable position of the independent small retailer in today's economy, but also a healthy measure of skepticism concerning the motives and competence of the franchiser and his management team. One franchise-holder whom we interviewed observed that he had bought what was previously a money-losing corporate-owned store and had turned it into a profitable business by *not* respecting, to the letter of the law, company regulations. According to him, the reason the outlet was not profitable before was precisely because, being a company store, it had to obey the rules.

The ambivalence of franchise-holders is reflected in their other responses to questions related to their power to influence company policy. No single question elicited a stronger reaction than those having to do with the capacity to influence head office ($\mu$=2.82), or the likelihood of being consulted in the taking of a decision ($\mu$=2.63).[14] To the extent that any influence existed at all, it was seen as channeled through the franchisee association, Toxedec, but even here the response was minimally positive ($\mu$=3.73). To the question asking whether head office encouraged suggestions, managers replied in a slightly more positive way than franchise-holders, in that the former are surveyed from time to time on their opinions, while the latter are called together twice a year for meetings where, in their view, "...they [i.e., the head office people] know everything, we know nothing." Yet, at the same time, franchise-holders doubted that they could achieve the same results without belonging to the network ($\mu$=2.38) and expressed themselves as strongly supporting the values of the network ($\mu$=5.13). Similarly, franchise-holders replied negatively when questioned as to whether they would favor a greater degree of centralization ($\mu$=2.89), yet even on this issue, opinion was not unanimous. Some were prepared to cede some of their room to manoeuvre (in the form of direct purchasing) if the result were to be a more centralized system, with a more uniform offering of products. Those who favored a degree of centralization were also those most enthusiastic towards greater computerization, while those most opposed tended to be the same people who had been longest in the network. Not surprisingly, therefore, as we saw above, the longer the franchisee had been in the network, the less his or her enthusiasm for computerization (r=-.432, p=0.008). Well-established businesses have stabilized work practices and more confident management, have become profitable and are headed up by people who have witnessed the evolution of the franchising operation, with its mixture of benefits and disadvantages, and have become jealous of their independence; newer members of the

network apparently lack the same assurance and are considerably more dependent on the services offered by head office for their continued viability. Of course, those who have been longest in the network are also the most likely to be associated with the franchisees' association, Toxedec, and to have the most political clout. Their potential opposition to a computerization project is therefore not a trivial consideration, from the point of view of head office.

## The "Waiting for Godot" effect[15]

The most single striking finding of our entire study was not one built into the initial study design at all: the proposed computerization programme never even came close to getting off the ground! Throughout the entire research period, deadlines kept being pushed back, and at the time of writing of this article, a further extension has just been announced. We are still waiting.

## Interpretation of the Findings

The kind of research we have been describing represents a turning away from the search for nomothetic laws typical of an earlier—and more positivist—era. Its intention is unabashedly idiographic: it aims to understand the communicational dynamics of a single observed organization by a patient sifting through the testimonies of the people who are associated with it. This is not, however, to abjure the goal of reaching a level of generality greater than the single case, and to say something of use, for example, about the overall phenomenon of computerization, as it relates to organizational dynamics. The ability to generalize, however, as we see it, is not to be guaranteed only through resorting to the standard procedures of statistical sampling and analysis (which have their place), but is rather to be accomplished by the accumulation and study of a variety of individually distinct observations and cases, from which, in conjunction with a developing theory of communication, some general principles can be modestly derived.

We could begin by noting, for example, that the concept of "need", as it has been used in the literature on computerization, is a very shaky one. When we try to apply the idea of "need" to the case study we have been presenting, it is evident that the perception of need, like that of beauty, is inevitably filtered through the eyes of a beholder: the need of head office accountants to get a better grip on the dues collection process, or the need of local franchise operations to control the re-stocking process, are each in their own terms justified by a set of legitimate preoccupations, but they do not together add up to a coherent policy of computerization, applicable across the whole enterprise. Indeed, strictly speaking, it is unclear that the two sets of objectives are even compatible, in that each can be seen as an unwarranted intrusion into the established turf of partners in an organization whose intrinsic *raison d' être* is a cooperative asso-ciation of interests whose motives are not perfectly coincident. In the kind of polycentric network we have been describing, neither franchiser nor franchisee is exempt from dependence on the other. This is not a McDonalds hamburger chain; the franchisees are professionals, holding a monopoly position protected by law, whose

massive loss of adherence (by going over to a rival franchiser, for instance), however unlikely, would be catastrophic for the franchiser. At the same time, the members of the network are quite aware that they need their sponsor even to survive. The measurement of "need", in this circumstance, appears to us highly problematical.

Even the term "computerization" now appears less clearly etched. A definite finding of our observations was that knowledge of, and experience with, computers was unequally distributed and overall tended to be sketchy, at best. Computerization, in these terms, is an event which has multiple meanings, depending on who your correspondent is. Ludwig Wittgenstein shocked the philosophical community by pointing out that a well-known word such as "game" has no single definitional trait applicable to every case; a game is not captured by a single concept, but rather by a family of concepts. The word "computerization", of much more recent coinage, is likely to be even less stable in its meanings. While the people we interviewed in Solane were all discussing "computerization", they were frequently talking about different things.

Behind these observations lies another of considerably greater importance: even the company itself is not a single well-defined entity. The word "company" also covers a family of concepts, and the experience of it is filtered through the phenomenologi-cally restricted experience of its diverse membership. Here the meaning of Weick's term "loose coupling" begins to become clear (Weick, 1976; Weick, 1985). An organization is really many organizations; it is a single reality *only at the symbolic level*, as part of some membership community's discourse. At the level of operations, the connections may be more tenuous. As our interviews proceeded in the context of the present study, we were forcibly struck by the low channel capacity of many of Solane's most important links. The purchasing department and the warehouse carry out complementary functions, but their relationship is weakly coordinated. The systems group had, to us, astonishingly little knowledge, prior to the intervention of the outside research group, of the user community for whom they were, in principle, designing a new communicational infrastructure. The procurement service was in some ways more intimately linked to its outside correspondents than to its complemen-tary functions within the organization. Communication between the franchised operations and central services was a daily adventure in ambiguity resolution. The relations of the systems development group to the executive committee on which they directly depended were sporadic, and enveloped in boardroom politics.

There lies in this attenuated communication pattern, we would suggest, the elements of an explanation for one of the persistent findings in the literature on computerization: its surprisingly superficial—and contingent—impact on organiza-tional performance (Child, Gunter & Kieser, 1987; Dunais, Kraut & Koch, 1988; Kraemer & King, 1986; Robey, 1981).[16] Even when computerized systems have been installed at a nontrivial cost to the organization, the result is all too frequently, even when they are enthusiastically adopted by the users, rather little impact on established ways of going about work, and little noticeable benefit in improved productivity (as

Clark, Dechman and Snider point out in their contribution to this issue). If our case study is in any way typical of the general situation (and our own professional experience suggests it is), the reason for the sub-performance of the technology is close to hand: the weak communication link—and low channel capacity—of the systems design and implementation community with other components in the organization. There were many reasons for this in the case we studied: as a group, it is not in a strong political position in the organization and as a result tends to move with caution and a certain secretiveness; the culture of the organization tends towards the autocratic in style, and hardly encourages open consultation of the kind that would lead to in-depth understanding of the user community; the group works in a specialized area outside the main preoccupation of the company, which is network expansion, not consolidation; and in any case, loose coupling is just a historical fact of life in this firm. (There may also be a weakly developed tradition among design engineers in this field of studying the logic of user practices, or to following up with evaluation.) As a result, the design process is based on incomplete knowledge of the workday reality of the people who are eventually going to be using the new systems.[17]

There are two effects which follow from this weak communication. The first is illustrated by the implementation programme carried on in the purchasing department of the organization we studied, where the installed software was neither particularly "user friendly" nor did it fit very well with actual purchasing practice. When such a misfit occurs, one common way of dealing with it (and here our results converge with those of Marsden, also reported in this issue) is for the users, most frequently low-status women, to carry the extra freight, by not only absorbing the blame for the lack of productivity, but also by compensating for the shortcomings of the technology by conscientiously taking on an extra load of work. This of course does not solve the problem, but it does hide it. The truth is that the technology is frequently not nearly as good as it is made out to be.

The second effect is illustrated by the curious noncommunication we have reported on between head office, including its system development group, and the franchisees, with respect to computerization. Part of the reason the project did not advance much during the study period probably had to do with head office politics, but part also can be explained by the considerable difficulty of planning and developing a very complex new technology for a community of users one does not know very well nor command an understanding of their work. In other words, a second effect of weak communication is to retard the implementation process.

At this level of observation, we confront a different phenomenon: the absence in much of the literature on computerization of what might be called the organizational perspective. The literature has exemplified in general two main approaches. The first is instrumental and utilitarian, constrained to the description of a carefully delimited sphere of operations, a selected object of analysis such as an office, which is to be computerized. The second is broadly social-psychological, concentrated on the reactions, attitudes and "needs" of a given user community. In both these approaches, the

organizational environment is given parameters, to permit the designer or researcher to concentrate on the immediate object. Unfortunately, what these two perspectives collectively accomplish is to mask the presence of the system designers within the organization, and by rendering them invisible, to hide the politics that inevitably characterize any polycentric, loosely coupled organization. By "politics" we do not necessarily mean to refer to "games people play" (although obviously large organizations are not immune to that kind either), but rather to the fact that, where the communication is relatively attenuated, and the center is relatively influential, it may become very difficult to radically alter an existing equilibrium by the introduction of a radical innovation.

It is clear that present-day managers are encountering problems in integrating the new technologies. Such difficulties are probably not insuperable in the long run, but for many companies there is no long run. They are being forced to change, rather rapidly, for exactly the same reasons they first came into existence, in embryonic form, in the nineteenth century: as a response to the changing reality of a vastly extended communication system, making geographically extended company operations not just profitable, but in the end inevitable. We have now entered an era of global competition, once again, as a century ago, threatening to render obsolete the modal forms of organization of our society. Now, as then, established organizations find it hard to adapt. Perhaps the one time when building a new communication infrastructure may not be difficult is at the moment of founding of a new enterprise. Later, the forces maintaining the existing equilibrium become very powerful. Taking these factors together, it would be reasonable to predict a very rapid turnover in the founding of new organizations, accompanied by an equally high rate of established firm mortality. There is some evidence, in recent statistics, that this is now occurring (Taylor, forthcoming). Future studies of computerization would benefit by taking a more historical perspective, better grounded in a communicational theory of the firm.

## Conclusion: The Need for a More Adequate Communicational Theory of Organization

Gareth Morgan (1986) has performed a yeoman service for the sciences of the organization by pointing out that, since an organization is a symbolic and not a real physical entity, the image we employ to conceptualize it is necessarily dependent on our choice of metaphor. Most of the models of organization that have been given something like universal credence in the past have tended to emphasize its instrumental character, and to make it seem like the analog of a machine, or an organism, or a brain. Since machines, and their biological cousins, necessarily have strong communication links (in that they would otherwise cease to work), it has often seemed acceptable to take organizational communication more or less for granted as well, and to see it as a necessary utilitarian "function" responsible for coordination, for transmitting information and for giving commands. If Morgan has succeeded in nothing else, he has at least liberated us from the strait-jacket of an outmoded metaphor and left us free to range at large, in search of a better conceptual base. In Weick and Browning's (1986)

words: "The current study of organizational communication has too much organiza-
tion and too little communication". We share that view. The issue now is not the
collection of more data, but a better comprehension of the data we have, through a more
intelligent application of theory.

An important part of the research exercise has thus become theory development.
One promising direction for exploration, we suggest, is to see organization as a
conversation. Conversations are what create a universe of discourse: they define to
what people pay attention, how they jointly imagine their world and how they discover
their own and others' identities within the context of an ongoing negotiation of
relationships. When you join an organization, you commit yourself to sustaining and
elaborating on its conversation, to following its rules, to contributing to its documen-
tary basis and to restructuring your own cognitions to fit its contours. Conversations
both use and produce texts, and occur in situations which they both define, and are
defined by. They can be multiplexed, and organized hierarchically, so that there are
conversations about conversations. They can even take themselves as their own
subject matter. They are, in our view, the very fabric of the organization (Taylor, 1988).

From the time of Adam Smith on, the utilitarian basis of an organization (its
nonconversational side, if one prefers) has been, by general agreement, the division of
labor, well exemplified in its organization chart, or "organigramme". When the
concept of division of labor is re-examined through the metaphorical lens of the
conversational image, a number of interesting implications emerge. For one thing, task
specialization gets translated into dialect opacity: specialized workers develop
particular vocabularies—dialects or jargon—which simultaneously facilitate conver-
sation within the local community and render contacts with people outside difficult.
Dialect variation between groups in an organization is by implication, however, a
practical guarantee of regions of ambiguity, so that we perceive ambiguity not as an
aberration, but a necessary corollary of the principle of division of labor. Similarly,
conversations structure themselves around ongoing themes and are inseparable from
the communities of people who sustain them by the frequency of their interaction. The
flip side of interactive intensity is its complement: infrequency, and lack of interaction.
An organizational conversation, taken as a whole, thus has what might be termed a
geography, with regions that are densely, and others that are sparsely, settled.
Conversation, seen as the fabric of complex organization, is nonhomogeneous.
Finally, a fundamental and well-documented property of all discourse is that it creates
patterns of *us* and *them*, of *in-group* and *out-group*. The organizational analog of this
phenomenon is what is called "displacement of goals" (March & Simon, 1958). The
effect of the division of labor thus assures more than task specialization: it creates
interests. An organization is a mixed-motive world: part cooperation, part competi-
tion.

The choice of a conversational metaphor for the study of organization has
numerous practical implications, which have been pointed out in some depth in the
recent literature and which are of assistance in making sense of the kind of data we have

been reporting in this article. Weick (Weick, 1976; 1982; 1985), for example, has observed that all organizations are mixtures of tight and loose coupling, a situation which cannot be rectified for the simple reason that human beings are limited in their information processing and networking capacities, so that every time they move to strengthen a link in one part of their network, they will simultaneously weaken a link somewhere else. One can only pay attention to a limited number of things at the same time.[18] It follows further that all behavior in organizations is based on incomplete, even fragmentary, information. Decisional rationality as postulated by the classical models of game theory and statistical decision theory is based on an impossible premiss: complete information. Decision making in real organizations, it has been alleged by authors such as March, Olsen, Cohen and others (March & Olsen, 1976; March & Weissinger-Baylon, 1986), is fundamentally social in character, in that it represents an engagement of individuals, confronted with issues, bringing together a range of solutions in search of problems, framed within a happenstance conversation, in response to an agenda with deadlines whose motivation is frequently arbitrary, and in response to a randomly generated calendar of events. An organization, in their view, is something like "organized chaos". Environments, these several authors assert, are inherently ambiguous and incomprehensible in great depth. Cognitive, decisional rationality, in Brunsson's view (Brunsson, 1985), is not very useful in organizations precisely because it tends to highlight the opposition of interests therein, whose salience, once emphasized, is a barrier to collective action; what works is *action* rationality, namely the kind of logic which emphasizes commonalities of purpose, fudging of differences and the building of consensus. Organizations, as we will discover in the research reported in this article, are often reluctant to follow paths that lead to the division of interests. The business of managers, in at least one view (Kuhn & Beam, 1982), and contrary to the conventional wisdom on the subject, is not to manage the organization as such (which, given the presence in the latter of a multitude of esoteric specialized knowledge bases, is an outlandish notion) but rather to *manage the management* of the organization. From our point of view, this is equivalent to saying *managing the conversation* of the organization.

What we have been exploring in this paper are some of the implications of adopting an approach based on the conversational metaphor to organizational study, as a step towards a revised comprehension of the phenomenon of computerization. We have tried to illustrate some of the incidental effects of loose coupling and what March's group calls "garbage can decision making". Our perspective can be seen as having important methodological implications, in that we have been required by our theoretical commitments to look, as far as possible, to properties of the *conversation-as-a-whole* of the organization for explanation of the results unearthed in the empirical part of the investigation. Our view of conversation led us to observe and record not just the multiple visible and audible manifestations of conversation, which is the way conversation has been traditionally studied in the field of discourse analysis, but also to take account of its *absence* — to be conscious of silences as well as of chatter, reticences and the absence of interactional density as well as thick discourse. We take it as

axiomatic, with Watzlawick, Beavin and Jackson (1967), that to not communicate is still to communicate. What we have tried to show is that in the introduction of a new technology, what is said (in the form of plans and reactions by those most immediately concerned) is no more significant than what is not said.

## ENDNOTES

1. Research for this article was partly funded by the Canadian Workplace Automation Research Centre (CWARC) of the Federal Department of Communications and by the Université de Montréal (CAFIR). The opinions expressed in this article are those of the authors, and do not necessarily represent an official position of the federal government.

2. Although see Markus, 1983, Hirscheim, 1986, Huber, 1990. For a more complete review, see Long, 1987.

3. It also requires a multiplication of types of report, as we shall see later in the article.

4. The situation is complicated by the fact that the franchiser is a part owner of a number of operations.

5. For more detailed information, see *Rapport Technique* préparé par le Groupe d'Intervention Stratégique en Communication Organisationnelle, Université de Montréal, octobre 1988; Implantation bureautique dans une franchise en pharmacie: Rapport Scientifique, Aude Dufresne & Josée Saindon, juin 1989; L'Informatisation d'un Réseau de Franchises: Une Étude Pré-implantation, Mémoire de Maîtrise, Université de Montréal, Françoise Bélanger, 1990.

6. To conduct research in this environment is an adventure in flexible planning. In the section which follows, we try to present the steps of research in an orderly manner. In practice, considerable extemporization characterizes almost all organizational field research.

7. This may in fact have been the reason for their choice, in that it was common practice for store operators to consult Parcom when they ran into difficulty with their systems. These would then be the franchises best known to Parcom.

8. More detailed results are furnished in two reports, Bélanger 1990 and Dufresne & Saindon, 1989.

9. The question was phrased as follows: "In order of importance, please indicate the task or tasks to which priority should be given in computerization?"

10. The groupings described in the text were developed through an exploratory factor analysis of responses, described in Bélanger, 1990.

11. For definition of policies, refer to the earlier section which describes the practice of the franchise operation.

12. One way franchisees have to even out the benefits for loss leaders is to hold back

enough of the item to a later, non-sale, week when they can sell it at the regular price and hence recuperate what they lost during sale week, when they were actually losing money as a result of the below-cost price. The realization that company policies cannot eliminate the room to manoeuvre of store operators is captured by a head office myth concerning the "Friday night cash register", which is supposed to be brought out only when the stores are full of customers, and is supposed to be a way of not rendering to the franchiser the full extent of the dues to which he is contractually entitled. We could uncover no evidence of a factual basis for the myth; it seems to express a recognition of the fundamental mixed-interest character of the franchiser-franchisee relationship.

13. Including, somewhat to our surprise, the role of the supervisor, who is apparently seen as having positive as well as punitive functions, in that, as a qualified manager himself, his advice on how to run a better operation may be appreciated, particularly by less experienced franchise holders.

14. It should be noted that, given the overall response skew (towards the positive end of the pole), a mean of less than 3.0 constitutes a "very strong negative reaction".

15. A title borrowed from a report written by Fernande Faulkner (1984), in the context of the Department of Communication's Office Communication System programme (the same programme described in this issue in the article by Clark et al.).

16. For more detailed review of these previous findings, see (Taylor and Katambwe, 1988;Taylor, forthcoming).

17. We should perhaps absolve the individuals in the system development group of personal blame for this noncommunication. It was evident, for example, that they listened attentively to the results of the research project, and incorporated its recommendations into their planning. What we are talking about is a tradition, which tends to treat computerization as not, as in the old days, a *deus ex machina* but rather, in keeping with the times, a *machina ex deo*. Technology is treated, both by its developers and its users, as a neutral benefit, depersonalized and already predefined, rather than as the product of some person or persons somewhere, guided by some kinds of understandings, and motivated by some kinds of needs and ambitions. This depersonalization strikes us as serious nonsense. Technology is situation-specific.

18. This has been termed by Friedman, the *valency* of communication (Friedman, 1972).

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