And Now, the Creative Corporation

The "creative corporation" now appearing on the U.S. business horizon, says company president Frieda B. Libaw, has as its primary purpose the solution of social problems. For such an enterprise to succeed requires a whole new value orientation, plus management systems that—for example—make the customer a participant and require all members of the company to be generalists.
I see a new kind of corporation emerging in the U.S. today. I call it a creative corporation both because I find the name descriptive and because it serves to differentiate it from what I think of as its three prototypical ancestors: the explorative, the industrial, and the technological corporation.

The creative corporation is different in significant ways from these other kinds of corporate enterprises, which will continue to live and grow alongside it for many years to come. The creative corporation is an evolutionary form. As such, it does not supplant earlier forms but represents a new adaptation to changing conditions. And, like other new adaptations, it has its special vulnerabilities along with its special capabilities.

The environment out of which the creative corporation is emerging and to which it is singularly adapted is the contemporary social scene.

This scene includes all the things that social critics are fond of cataloguing: environmental pollution; disaffected youth; hard-core unemployed; the erosion of "morals"; decaying cities; the "pluralistic society" with all the conflicting interests and conditions among government, business, academia, labor, the military, minorities, and other groups, ad infinitum.

The creative corporation is emerging as a creature designed to derive its sustenance and to grow by contributing to the solutions of these social problems—many of which have been brought about as "fallout" of the growth and feeding of the older corporate forms. And this is one of the creative corporation's distinctive and differentiating characteristics: its primary purpose is social problem solving.

Even if a company has a genuine desire to contribute to the social welfare and to resolve serious social problems, and even if a large commitment of corporate resources is made for these purposes, that company is not necessarily a creative corporation. For as an intrinsic part of its focus on social problem solving, the creative corporation is evolving new forms of management, new sets of incentives and demands upon its employees, and new relationships with its customers.

In all of these areas it is altering accustomed ways of doing business that go beyond the creation of new products or the mounting of new marketing or public relations campaigns.

Companies trying to enter these new social problem-solving markets who persist in following their old ways are likely to get bruised. The results of big business's attempt to capture the "$30 billion education market" is a grim reminder of how maladaptive old techniques can be, even though they are backed by multimillion-dollar corporate investments.

The new ways the creative corporations are developing, their seeming strengths, and their unresolved difficulties are of primary concern here. But at this point I believe a little historical diversion will help to clarify how creative corporations behave in ways different from the ways of their corporate contemporaries and predecessors.
I distinguish four phases in the evolution of corporate enterprise. As you read the following discussion of these phases, it would be well to keep in mind two things: first, the purpose of the enterprise, and second, the side effects, whether anticipated or not. The second consideration is one of the main underpinnings of the creative corporation. Later on I’ll explain these side effects and their causes in more detail.

The explorative corporation: 1500–1750
The earliest corporations, the explorative corporations, were established by royal fiat to find and bring back gold and silver to bolster the wealth of the crown. They accomplished this purpose admirably. In the process, however, they also encouraged piracy on the high seas, were instrumental in hastening the demise of feudalism, promoted the rise of nationalism, hastened the spread of the Protestant ethic, and fostered other sweeping changes which were entirely outside the purposes for which they were founded.

The industrial corporation: 1750–1940
The main purpose of the industrial corporation was mass production and distribution of manufactured goods. This kind of corporation, which rose during the Industrial Revolution, was made possible by the invention of machines to speed production and distribution.

Again, unforeseen but far-reaching side effects followed its success. Among these were the urbanization of the population and the rise of a landless proletariat.

The industrial corporation also increased the demand for literacy in the general population and the demand for universal primary and secondary education. It promoted a strong belief in the merits of unbridled competition, “the survival of the fittest,” and the inevitability of “progress.”

While it rang the praises of the self-made man and created the myth of Horatio Alger it inadvertently contributed to severe economic crises with high unemployment, rising crime rate, and general despair among the working classes.

The technological corporation: 1940–1970
Following World War II mass production and distribution of basic goods and services were no longer the main challenge. The new challenge, which provided the thrust for what I call the technological corporation, was to use the new technologies developed for the war to bring newly created products into production. It included the job of inducing people to want—indeed to need—things they had never even dreamed could exist.

The roaring success of the technological corporation is attested by the avidity with which people have been made to desire everything from automobiles and television to detergents and no-return bottles. But unforeseen side effects are now forthcoming as a result of the technological corporation’s success, just as that followed the successes of its predecessors. These include suburbanization of the middle classes; the decay of our inner cities; a rising demand for universal higher education, tranquilizers, and amplified guitars; non-biodegradable plastics; air pollution; and a growing group of able-bodied, hard-core unemployed.

Apologists for corporate business can point to many benefits to the general welfare derived from its enterprise. A legitimate argument can probably be made that on the whole these benefits outweigh the bad side effects business has brought about.

But neither protagonists nor antagonists of corporate enterprise can accomplish much without recognizing that serious problems do exist in modern society. Whether they are to be laid at the doorstep of business or not, their seriousness commands attention and requires the formulation of reasonable and timely solutions.

The creative corporation: 1970–
The creative corporation begins with this recognition and carries it a step further. It says, in effect, that many of these serious social problems that plague us today can themselves be resolved by profitable corporate enterprise.

In undertaking tasks of “social betterment,” this type of corporation creatively synthesizes those activities hertofoore regarded as eleemosynary or governmental with the expertise and profit orientation of the commercial enterprise. I feel strongly that such synthesis calls for new forms of management and corporate activity. And the only way we can hope to perceive what these new shapes and activities will be is by trying to understand something about our own times. Only thus can we anticipate the demands around us, instead of having to react to them after a crisis period is already upon us.

The evolving corporate value climate
Every kind of corporation arises in a different era; each shows the mark of its times. The historical era in which it is formed establishes the limitations and provides the capabilities within which each must learn to live and grow.

As I view it, there are two especially salient aspects of any historical era insofar as influence on corporate organization and operation is concerned. These are the state of scientific and technical knowledge available at the time and the values and beliefs governing society during the period in which the company is formed.

The state of available knowledge is a primary limiting factor, but values and beliefs are even more fundamental. It is society’s values and beliefs that direct the search for further knowledge and thereby constrict or expand the constraints within which the corporation will function. Perhaps even more important, values and beliefs govern the way existing knowledge is put to use.

The purpose of the explorative corporation’s management was to fill the royal coffers and to widen the royal dominions, and no real consideration was ever given to the rights of the peoples or lands that were plundered. The beliefs prevalent at the time were that the aristocracy served God by serving the crown, and people and
ings of "savage" realms were non-people and—like the beasts—were put on earth for the benefit of the Christians.

The side effects of one kind of corporation set the stage for the values and beliefs of the next. When manufacturing began to develop at home, to use the raw materials acquired by the explorative corporations, manufacturing began to take on new respectability, new status, and new power, and the artisan gained an unprecedented opportunity. Despite the disadvantages of humble birth, with ingenuity and a small amount of capital to invest he could now rise.

The corporations that evolved from the Industrial Revolution initially seemed to be the extensions of single men. Whereas the explorative corporation regarded its chief executive as a servant to the crown, the entrepreneur-owner-manager of the industrial corporation was beholden to no man. In the exhilarating atmosphere of opportunity for classes below the aristocracy, ideas like "survival of the fittest" furthered the notion that those who won in a ruthless competitive marketplace had thereby demonstrated their superiority.

The chief executive of a corporation was a virtual dictator; when his enterprise grew he hired capable underlings who took orders. In a value climate in which superiority was demonstrated by success in amassing wealth, the worker was considered an instrument of production. He was paid as little as the employer could in conscience get away with.

With the growth and expansion of industrial empires, machinery came to be regarded more highly than men, for it was more expensive and more difficult to replace. This created a new climate of values. The technician, the man capable of building machines and keeping them in running order, gradually came to occupy a new status role in society. This was the climate in which the seeds for the technological corporation were sown.

The new entrepreneurial elite, which had learned how to put technology to use, had values different from those of its predecessors. As much as they wanted the accumulation of wealth, these entrepreneurs wanted to obtain it through some display of their technical skills as well as their shrewdness and business acumen. So they created corporations that demanded their skills.

In so doing, they created an enormously increased demand for higher technological and scientific education and established whole new relationships between industry, government, and the academic community. And because of their dependence on highly trained skills which were still in short supply, they began to establish new personnel management techniques. Since employees and entrepreneurs in the technological corporation came from the same kind of background and had the same kind of training, a new equality emerged—an equality of the intellect and of skills. "Management of the work force" changed its connotation from time-and-motion studies to the sophisticated application of group and individual psychology designed to keep employees content, cooperative, and creative.

Turning from itself to its marketplace, the technological corporation found itself with the task of creating consumer markets for hitherto unknown products, which it could produce in almost endless quantity by adopting the production methods perfected by the industrial corporation or by turning to the government to market expensive items.

Thus the technological corporation—by its fostering of the demand for higher education, by its use of technological and scientific skills for the creation and marketing of new devices, by what I consider a pervasive atmosphere of hucksterism and gadgets—not only has given us more things than even our affluence can buy, but also has created a revolution against itself on the part of the very educated groups it needs to attract. It has accomplished the latter by demonstrating that "things" are not enough to make us content even though they may make us comfortable.

Today we have a new type of consumer, dissatisfied with the results of technology-produced "luxury" and alarmed about its side effects. Especially among the young, we see anti-materialist movements and general social unrest. And we see a growing realization that unless the problems of society as a whole are solved, the life of the individual will be abominable.

Building the company and the product

The stage now awaits the players of the creative corporation.

A framework of values exists for those with the requisite education and skills to develop, within the structure of corporate enterprise, a company of activist scholars and scientists eager to put their knowledge to use in the solution of social problems.

Current thinking on the way business will attempt to cope with these problems is that it will translate the "systems approach" from the sphere of technological problem solving to the social arena. But it is my opinion that any attempts at a simple conversion of systems analysis from technology to social problems will fail unless they are accompanied by significant and deep-reaching changes in orientation that are reflected in every aspect of corporate structure and corporate operations.

These changes must be materially assisted by some significant alterations in the governmental sector. The business and financial communities could do much to bring about these necessary political changes if they were willing to alter some of their own traditional modes of functioning and to make some long-term investments without their traditional guarantees. However, it is more likely that change will come from small creative firms which will have such social goals as their corporate purpose.

In my view, the creative corporations that have the best chance of "making it" are those that begin not only with technological expertise and systems know-how, but with scientific knowledge in the behavioral, social, and information-communications sciences and a flair for their application.

Additionally, the managers and executives of successful creative corporations will have genuine leadership ability—ability to gather around themselves and to obtain full participation and involvement on the part of those who work with them. And the concept of who works with them must be broadened to extend beyond the "management team" to include all employees and, to some fundamental extent, all customers.

The customer is a critical link in the creative corporation's system design. Without him there is no appropriate feedback mechanism to allow the system to become self-modifying. Whereas the tech-
The explorative corporation
drew upon new knowledge of geography and
navigation to acquire raw materials and territory.
The prevailing value system maintained that success
was due to human daring and divine intervention;
people were regarded as exploitable nonentities
or as donors of favors. Management was by
royal decree, since corporations—such as the East
India Company and Hudson’s Bay Company—were in
service to the crown.

The technological corporation regards people as
consumers, the creative corporation sees
them as participants.

However, the customer
is unused to the role of participant. In a
creative corporation there is a job to be
done which involves changing attitudes
and which calls upon every bit of skill and
sincerity and patience that can be muster-
ered.

What I am saying will take on more mean-
ing if I provide an illustration from the
activities of my own company, Cognitive
Systems, Inc. Let me preface my remarks
by admitting that at its inception I had no
idea that Cognitive Systems was a creative
corporation—or, indeed, that any such en-
tity as a creative corporation existed.

Cognitive Systems was started by a group of four
professionals in the behavioral-social sci-
ciences, education, and computer fields to
attack some pressing problems in higher
education. Founded in Beverly Hills, Cali-
ifornia, at the end of 1968, it came into a
post-Free Speech era. The battles of Berke-
ley had not only set off a series of emo-
tional and sometimes ludicrously tragic
explosions; they also raised serious issues
that the educational community was either
not addressing or could not deal with con-
structively.

The founders of Cognitive Systems
recognized the legitimacy of many of the
complaints leveled against the educational
establishment. We believe that the uni-
versity is too divorced from the social
problems of the day, and too exclusively
supporting the underpinnings of the technol-
ogical corporation’s activities.

In many ways
social change is dependent upon a revi-
sion in our educational system, so it is not
surprising that so much of the social protest
should center in and around the demands
for relevant and meaningful education Nor
is it surprising that so many of the corpo-
ration that I would define as creative are
engaged in trying to solve some of the
social problems created by the inadequa-
cies of our educational system.

Now it does
not take a creative corporation to see the
difficulties being experienced by public
education today—as witness the recent
flurry to apply technological expertise to
educational practice. But so far such appli-
cation has resulted in a general disillusion
The industrial corporation used the knowledge of physics—especially mechanics and electricity—to accomplish its purpose of mass production and distribution of goods. Values like “survival of the fittest” were commonly held. The “self-made man” built up such industries as mills, steel, and railroads, and his employees were charged with producing as much as possible for their superior.

with the “education market” as a lucrative field for business, as Karolyn Gould pointed out in her article in Innovation 14.

Why has “educational technology” been so unsuccessful to date? I would submit that the failure is in the understanding of relationships between the various groups of people within education. It is also a failure to know the limits of our knowledge of teaching and learning; after all, we really do not know what good instruction is or if it can be defined—there has never been a single study that convincingly demonstrated the greater efficacy of one method over another. Most important, from my point of view, there has also been a failure of genuine concern. The company that turns to social problem solving as a way to make a fast buck is likely to lose a bundle.

So far I have described some of the social needs which led to the founding of Cognitive Systems. We recognized the problems; now we needed a product and a process that would be a step in the right direction toward solving them. One sign that we were to be a creative corporation came in the way we conceived of our product, which evolved as a computer-based tutorial-testing system we call MENTREX (derived from MENTor or tutor and EXam).

From the first the product was conceived as a proposal to the academic community. It was built to allow its users to feed back information which could be used to shape it to their needs. These needs were never conceived of as being static. The product was never conceived of as being “finished” or “off the boards,” but as continuously adaptable to the various and changing needs of the user/participants.

The idea of our system is perhaps a deceptively simple one. It starts with the notion that the question is the heart of any instructional system. Socrates knew this, of course. But it is a sad truism that great ideas gradually become subverted in the hands of their users unless they are periodically refreshed.

Back in the days of the Greek Academy, a tutor asked his student certain questions to ascertain his level of understanding. Inability to answer a question did not mean failure; it only meant that there was more work to be done to attain a genuine mastery of the subject. It was the tutor’s task to determine what the nature of that work should be.

Gradually, as higher education became available to larger and larger numbers, this one-to-one tutorial relationship gave way to a system of examinations. Then
the written exam began to lose sight of its purpose: to help student and teacher know what they had attained and what remained to be accomplished in their joint educational enterprise.

In a competitive society, and a mass-education environment patterned on the industrial assembly-line model, examinations deteriorated into relative rankings until in some instances the complete subversion of the educational use of the question occurred. Tests came to be used primarily as a means of obtaining a "normal distribution" of scores on which students could be assigned grades—almost like a quality-assurance procedure in which the F's represent scrap. And our society, with its overcrowded colleges, its teeming cities, and its mechanized farms, no longer has room for large numbers of untrained, undereducated people scrapped by the school system.

On many campuses today, the examination stands as the barricade across which student and teacher view each other as adversaries. Students are justified in asking whether the grades assigned to them on the basis of often puerile and irrelevant questions could be allowed to have such power over their destinies. And some sympathetic teachers are making common cause with students against administrations that require exams and grades. They are willing to dismantle the examination system along with the grading system they cannot defend—even though it means throwing out the baby with the bath.

Here is where our product comes in. In our company we sometimes laughingly say to each other that we are using modern computer technology to set higher education back 2,000 years. But that has its advantages!

In essence, MENTREX gives the college teacher a printed version of a large computerized data base of carefully designed test questions, classified and indexed for subject matter content and for the level of intellectual skill (such as memorization, analysis, or synthesis—we call such a skill the "process") required to answer them correctly. From these questions the teacher can draw those he feels are relevant to his own course of instruction, in both content and process terms. The items he selects are incorporated by us into a computer-printed exam. The exams are also scored by the system, and each student receives, in addition to an overall score, a complete analysis of his perfor-

mance on each aspect of content and of process his teacher's exam assessed. Furthermore, for each question he answered incorrectly, he receives another question for use as a guide to the study of material he needs to work on further to attain mastery. The teacher also receives a number of analyses of class performance.

Well, it's not exactly Socrates. But it's a start in the direction of giving exams educational value for the student again.

For here is a system that teachers can use in a multitude of ways. They can add their own questions to the database if it does not adequately reflect their own organization and emphasis; they can clarify their own educational objectives in the system's terms and convey them to their students, or they can work with their students to define mutually acceptable objectives; they can assign grades on the basis of clearly defined levels of competence instead of relative standing.

Also, teachers have a tool, under their own control, in which they can state the terms in which they are willing to be held "accountable" to the administration and the public. This means that academic materials, instead of being imposed from above or from outside, are shaped by those most qualified to do so: the faculties.

Our emphasis on helping the teacher operate within his present situation is an important illustration of the nature of the creative corporation. The function of the creative corporation is to facilitate change while being a part of change—but you cannot force transformation. From our knowledge of social behavior, we knew that an attack on the colleges would only serve to make them more resistant to change, and that criticism will not make a person or institution change until an appropriate alternative is provided. We therefore set out to develop our product in such a way that it did not require much initial change in ongoing processes.

We felt it would be the height of arrogance to try to replace a teacher (or part of the teaching process) with a machine, since so little is known about what constitutes good teaching methods. And even if we had been able to do so, such an attempt would have been met with the very resistance we wanted to avoid. So we made our approach from another direction: using technology to measure teaching outcomes rather than to teach. The teacher does not even have to use the computer himself; he mails in his choices on a form and we do the computing.

The way we market our product is also illustrative of our total philosophy.

From the first, as we were determining what our product would be, we decided to ignore the elementary and high school markets. Our reasons were several. Foremost among them was that we read the difficulties of our educational-technology predecessors to mean that a small firm, with limited resources, would go broke before it could crack the barriers of sales to school systems, with all the constraints placed on their purchasing agents and the advance preparation of rigid, restricted yearly budget allocations.

Our product, while technologically based, does not require the manufacture or sale of gear, and it can be sold through regular college distribution channels (bookstores) upon adoption for use in their classes by instructors—exactly the same technique by which college textbooks are marketed.

As we viewed it, the college market has other merits as a practical starting place for us. Colleges and universities set the pace for the whole educational enterprise. The school system, up and down the line, is a remarkably ingrown social institution, unified by its measures of success. Everywhere, the measure of success is how well the graduates perform at higher levels of schooling. Numbers of elementary students entering high schools, numbers of high school students entering college—these are the routine measures of school effectiveness. This tends to give
each higher level the power to determine the "success" of the level below it. Hence those below tend to pattern themselves after those above in order to meet the criteria for success. The top level, the college level, is thus extremely influential on all educational institutions.

Not only that, the colleges and universities are also responsible for training teachers and administrators at all levels of schooling. So the influence of any program adopted at the college level is likely to be felt faster than it would be if introduced at any other school level.

So our product has a number of implications that go beyond a single classroom. It opens up possibilities of a return to a "no failure" system where failing to meet acceptable standards in a prescribed period of time does not incur punishment, but only clarifies what needs to be studied in order to succeed on the next try. This is only a step away from providing the wherewithal for handling the logistics of self-paced study even in a mass-education environment, and thus breaking the lockstep of classes and prescribed school terms.

All these possibilities—and they are possibilities which, if realized, could make profound changes in higher education—are intrinsic to our system. How these possibilities are exploited, what other uses or modifications or expansions of the system will arise, depend in large part on how much participation and involvement can be elicited from Cognitive Systems' staff, and from teachers and students on the system.

Obtaining this participation is one of the most difficult, and responding to it could be one of the most expensive, of the creative corporation's tasks when it is involved in education.

Customers are used to "voting" on products. If they buy it, they have given it a yes vote. If they don't like it, their refusal to buy is their no. Up to now that has been the only way they could show approval. But with products of creative corporations, such as ours, the yes or no vote is not enough. What is needed is participation on the part of users and nonusers so that the product can either creatively synthesize their multiple inputs or encompass them to provide the range and quality of product or service needed for the desired attempts at solving social problems.

To get this participation takes time and the ability to overcome some of the negative attitudes toward business and toward technology now to be found in higher education circles. The kind of customer to which Cognitive Systems is addressing itself—the educator—thinks "profit" is a dirty word and would resent being manipulated for corporate profits. So we must convince him that we are as deeply involved in meeting higher education's needs as he is and that we want to work with him to help him achieve his own goals.

Through the years, the instructor has come to accept the value of a text as an instructional tool, a service for him. A good part of our marketing effort is devoted to setting up channels of interactive communication that will help to build a similar kind of confidence in our technologically based product. We encourage the instructor to add his own questions to tests, to let us know what parts of the system he likes or doesn't like, to avail himself of the opportunity to find out via our data what the other users are doing with the product.

Only by keeping channels of communication open and by being truly responsive over a period of time will we induce our customer to feel that he is really a participant who has a hand in shaping our product.

Managing a responsive organization

This need to build up a responsive relationship between the creative corporation and its customers poses some problems. It prevents the corporation from knowing clearly in advance those schedules of product development, of costs, of cash flow, of break-even, and of profitability that are the customary preludes to financing.

As more and more creative corporations emerge, there will be a real need to develop guidelines to establish required capital needs. Here is a problem that could itself generate a creative corporation: one designed to solve the problems of how best to determine financial needs and potential profitability of this new breed of corporate animal.

There are real differences between the formulation of a goal—such as putting a man on the moon in a specified period of time—and saying that we will be shooting for a goal whose definition is likely to change as we approach it. Yet this is what responsive social problem solving requires.

Additionally, by accepting the constraint that its methods must not prove disruptive to the social institutions or the human behavior in which it is inducing change, the creative corporation must expect to move "with deliberate speed." Its pace will be determined by the rate of change that can be accommodated. In some circumstances this can be very fast. In others it will be slow. For much of its business, the creative corporation may require sufficient capital to give it the sticking power for the long haul.

The fluency and flexibility of the creative corporation which give it its strength as a responsive problem-solving organization is also its weakness as far as potential backers are concerned. Perhaps with time and experience, creative corporations dealing with certain problem areas will be able to forecast with reasonable accuracy the amount of time and dollars they will need to achieve an acceptable return on investment. That time has not yet arrived.

The companies I present know about that I would be willing to call creative corporations did not conceive of themselves as a new breed when they were founded or when they obtained their first funding. In this case, ignorance may indeed have been bliss, for they started out in their relations to potential investors and in their approach to management following the patterns established by their technological corporate forebears.
Looking back two years to when we started, it is now clear to me how little we knew about what we really were. Nowhere is this clearer than in the metamorphosis that has taken place in our corporate structure and in the way we manage our internal affairs.

When Cognitive Systems was first founded, we took our model of organization and corporate structure from those technology-based companies with which our investors and our principals were most familiar. Although we were aware from the start of the social implications of the sphere of activity we were entering and although we saw the potential of the product we were shaping for offering constructive solutions to some of higher education’s serious problems, we did not see the implications for the way our company should be organized and managed.

Accordingly, taking a leaf from the technological corporation, we tried hard to define the tasks we needed to accomplish, allocate them to specific people, and coordinate them so that we would get out into the marketplace within a specified period of time. We also found ourselves working out organization charts as various professionals, technologists, and managers we recruited wanted to know where they stood in the corporate “hierarchy,” to whom they reported, and who reported to them.

What seemed unfortunate at the time, and threw me into serious doubts as to my own ability to manage anything, was that no sooner had we arrived at an organizational structure than we found we had to redefine our tasks, or that the skills we thought we needed turned out not to be adequate to the task that needed doing, or that we had to reorganize our organization chart to accommodate the skills we could get rather than find people who would fit into our preconceived structure.

I got pretty fed up with it. My own technical skills were required in the development of the product. I was deeply engrossed in the direct labor of system design and of developing the MENTREX prototype, a system for psychology courses. I kept trying to use what I knew about creative problem solving to get people to work together, but when it came to getting them to accept responsibilities and to meet deadlines, I kept finding the organization chart getting in the way.

The fact is that organizational structures that lend themselves to hierarchical arrangements of status and authority tend to bring out in people those behaviors which are least conducive to

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The technological corporation was founded to market new products and services, and played upon a consumer desire for “things.” These products were largely the outgrowths of R&D in the sciences (including optics, electronics, and chemistry). Hierarchical management structures were accompanied by the phenomenon of the organization man, and personnel management aimed at keeping employees happy and creative.
The creative corporation operates in a value system that includes antismallism and the recognition that individual and community welfare are inseparable. It has the solution of social problems as its purpose. Behavioral, social, and information sciences are applied, and employees are generalists who share in decision making. The customer is regarded as a participant, and open communication is stressed.

Since we were always so few (25 people by now) and since we all had so much work to do, we finally came to recognize that the only way we could get coordination of effort was to make sure that the lines of communication were always open so that everyone—from the lowest to the highest—was working with the same information. We wanted participative decision making because, since we were doing something that had never been done before, we felt that putting our heads together might help us formulate our problems more clearly.

We have gradually worked out a system of management that works pretty well for us. It keeps us talking to each other and helps everyone know what's going on. It gives all of us the information we need to come to agreement on necessary courses of action. It enables us to set goals and devise ways in which we can achieve them. Here, briefly, is how it works.

Our organization is divided into these conventional departments: R&D, operations, marketing, and finance. Under R&D, which is my bailiwick still, we include our computer systems development, our editorial work, and new product development. (New products are, for the time being, MENTREX systems for new courses.)

Under "operations" we include the functions that get our product to our customers—constructs their tests, analyzes them, receives requests from them, ships manuals and reports to them—and those internal administrative functions such as purchasing, plant maintenance, personnel, and clerical support.

Marketing includes the usual sales, customer relations, market support, and market analysis functions. Finance includes budgeting, controlling, handling accounts, and payroll.

Operations, finance, and R&D have a titular head. Marketing at present does not. It is a joint department in which we divide up responsibilities for promotion and advertising, sales management, market analysis, and customer relations. We do have a fourth member of our top management team, however, who has both an internal and an external liaison function: helping the company maintain its lines of communication with its customers and also its internal lines of communication.

These four members serve on a corporate planning committee, meeting briefly and informally touching base with each
other on a daily basis and meeting more formally once a week. Input to these meetings comes from all the other members of the staff, who in turn receive feedback on an informal basis.

The creative corporation makes demands on all of its employees to be generalists. All must have not only some understanding of the company’s goals and activities, but some hand in shaping these goals and activities. One mechanism we have at Cognitive Systems has helped immeasurably in ensuring the free flow of information and understanding needed for this participation.

For one or two hours every week, each one of us works at the tasks of another department, doing whatever happens to be needed at the time. This kind of exchange has given us some of the most highly paid and educated keypunchers in the world! It has also helped our editorial people understand what happens when they don’t catch errors in the test item database and has helped our secretaries to have an intimate acquaintance with the problems of the shipping department. It has also let every member of the staff catch the excitement and the challenges in the work of others.

This “exchange program” has brought us some of the most valuable ideas for product improvement, for marketing, and for efficiencies in routine tasks by taking people out of their routines and asking them to put on their thinking caps and cast a fresh glance at the tasks of others. It has also had a salutary effect on the way people think about their own work by making them anticipate the reactions of others to it.

Other side benefits of incalculable worth have also accrued. We have managed, despite our small size, to train each other so we can “double in brass” in emergencies. But most of all, we have become an integrated team, involved with the tasks at hand, feeling good about the part we play in trying to solve some of the critical problems in society, feeling good about ourselves and tackling each day’s problems with zest and confidence.

I haven’t yet figured out whether the form of management we have evolved grew out of the fact that we were a small group with quite a bit to do and fell naturally into some ways that served us well. I have had doubts as to whether our way of managing our affairs could be made to work effectively if we grew beyond a certain size.

But I recently came across an article by Shigeru Kobayashi, manager of Sony’s 5,000-employee Atsugi plant, which indicates that the management methods we have developed can be maintained (at least in spirit if not in every detail) in larger organizations. In his article, Kobayashi emphasizes creative teamwork and speaks of avoiding “stabilization of structure through organization charts.” He says: “Teamwork is possible only in small groups, so we had to redesign our large organization as a collection of interlocking small groups.” That’s essentially Cognitive Systems’ structure, except that we are a team of interlocking individuals.

Our product is now available for three introductory college courses—psychology, economics, and American politics—and is in use on more than 130 campuses in 29 states and Canada. We look forward to growth, not only for reasons of profit but because we want to succeed to the point where we encourage emulation, and encourage affluent and concerned people to take the risks of financing more corporations in the social problem-solving arena.

Creative corporations of today and of the future are in an ideal position to capitalize on the contributions of dedicated young people. Because of their involvement in social problem solving and their participative management, they provide the kind of constructive and satisfying work that many of our young people now think can be found only in such activities as antiwar demonstrations and political campaigns.

If young people can be induced to bring their capacity for involvement, their scientific and technological educations, their concern for social betterment into the corporate framework, there will be hope indeed that the creative corporation will make social problem solving the most significant and most rewarding area of corporate activity in the 1970’s.
Frieda Libaw has a mind that branches out like a tree—each branch bringing forth new ideas that in turn bring forth others. Yet she seems to have the knack of pulling these ideas together somewhere along the line. For example, one reason her company focuses on education is because of the important role she feels education plays in the “social ecology,” a concept she arrived at through her interests in science and history. By social ecology she means the interaction of events and forces that keeps the social system in functional balance. Mere higher education is becoming more and more necessary to keep our economic wheels turning and also to provide a place in society for everyone. Unless we can make the system more efficient, the social ecology will be thrown off balance.

Business was a logical place for Frieda to turn to, for she has felt for some time that—given the right approach and orientation—business is one of the few viable agencies for introducing nondisruptive social change in this country.

By the time Dr. Libaw became an entrepreneur in education-related technology, as president of Cognitive Systems, Inc., she had acquired the thorough grounding in behavioral science that she says the creative corporation requires and also a first-hand knowledge of her potential marketplace.

Her own formal education includes a BA in bacteriology (UCLA) and an MA and PhD in psychology (USC). She has taught psychology for several years on the college level, consulted on several levels (including the Los Angeles Cooperative Nursery Schools), and directed research. Since 1961, she has been executive director of The Galton Institute, a private nonprofit research organization concerned with fostering intellectual and creative behavior. She has just relinquished the post of national chairman of the American Society for Information Science's first Special Interest Group in the Behavioral and Social Sciences, which she helped to form. She keeps in close touch with members of the educational community and others who share her interest in creativity and improving the educational system.

A key member of Cognitive Systems' family, incidentally, is also part of her personal family. Her husband, William H. Libaw, is secretary-treasurer of the company and a member of its board of directors. He also works with her at The Galton Institute.

Among the recent writings that have influenced the development of her thoughts on corporate evolution is The American Corporation by Richard Barber (Dutton, 1970, $7.95). Barber states in this book that social problem solving is likely to become the biggest new money-making market of the seventies. The article by Shigem Kebayashi she refers to is entitled "The Creative Organization—A Japanese Experiment" and appeared in the AMA magazine Personnel (Vol. 47, Number 6, November-December 1970). She found a provocative analysis of today's American social-economic-business scene in a speech entitled "The Paradox of The Aggregate," given by Gerard Piel, publisher of Scientific American, at the 1970 Annual Meeting of the Association of National Advertisers.

This Innovation article is the basis for a book she is writing, in which she plans to present case histories of creative corporations engaged in a variety of social problem-solving areas. She would welcome information from Innovation readers about any such companies and would like to interview the company principals.

Innovation Group members who would like to discuss extensions of Dr. Libaw's ideas with her in person will have the opportunity to do so at a Technology Management Seminar in the Los Angeles area in mid-May. If you are a Group member and want to attend, let us know what you would most like to talk about. Write Carol Conrad, The Innovation Group, 265 Madison Avenue, New York, N.Y. 10016. She will confirm your reservations and provide details of agenda and arrangements.