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Paradigms for Societal Transition[1]

Paradigms and Paradigm Shift

During the last 20 years or so a deep change has been taking place in the world environment. In terms introduced by Emery and Trist (1965, 1973, Vol.III), the salience of the disturbed-reactive environment has been giving way to the salience of the turbulent environment.

The disturbed-reactive environment originated in the processes of social change which developed as the first industrial revolution, based on energy technologies, progressed. This environment reached the full extent of its dominance some time after World War II when the second industrial revolution, based on information technologies, began to get underway. This second revolution is associated with the manifold changes that are giving rise to the turbulent environment whose causal texture is more richly joined (in Ashby's [1960] sense) than was its predecessor. In consequence, the levels of interdependence and complexity, and hence of uncertainty, are altogether higher. These features are making institutional forms and modes of adaptation that came into existence in relation to the disturbed-reactive environment dysfunctional in the current conditions.

Response-capabilities that can absorb and eventually reduce turbulence will develop only if humankind succeeds in building a set of major social institutions based on premises, values and beliefs radically different from those that underpin our present institutions. To raise institution-building to a new level of consciousness is a primary task of the present era. The process of consciously building legitimate and viable institutions infused with new and relevant meaning is referred to as social architecture (Perlmutter, 1965, 1984; Heenan and Perlmutter, 1979). This usage restores

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[1]Reproduced from *Human Relations*, 39:1-27.

the original Greek meaning of "architectoniki" which referred more to institutional than to physical building. The new adaptive institutions required involve a paradigm shift.

A concept of paradigm is essential for an understanding of social architecture as the building of new institutions. A paradigm is an overall framework embracing several determinants of behavior: perceptual-cognitive (such as attitudes and premises), axiological (such as values and beliefs) and conative-transactional (such as motivations and interactive modes). Paradigms can be seen at the societal level where they involve a great variety of institutions or at the level of the individual where they influence his key actions. They are to be inferred from behavior rather than from what is professed; they are "theories in use" rather than "espoused theories" (Argyris and Schon, 1974, 1978).

Paradigms are the "logics" or "mental models" that underlie the missions, systems of governance, strategies, organizational character and structures (including socio-technical systems) which are the parameters of the social architecture of institutions. They can also lead to stalemates. They determine modes of managing change and types of negotiation between different organizations and their spokesmen.

A paradigm expresses a self-consistent world view, a social construction of reality (Berger, 1977; Weick, 1969) widely shared and taken for granted by the members of a society, most of whom are aware only to a limited extent of the underlying logic, which is implicit rather than explicit in what they feel and think and in the courses of action they undertake. A paradigm provides, as it were, the medium in which they exist and tends to become explicit only when the need for a new overall perspective arises through increasing dysfunction in the prevailing paradigm, from which it then becomes possible to distance oneself and to search for an alternative modus vivendi.

The socioeconomic and sociocultural configurations of advanced industrial growth societies represent what is termed Paradigm I. The

socialist countries of Eastern Europe are a subset of Paradigm I in that they also are societies premised on industrial growth, albeit that centrally planned economies are the converse of free-market economies in some of their key economic and social processes. Paradigm I is based on premises, values and modes of interaction that make dominance and dependency a central preoccupation in societal and intersocietal relations. Preoccupation with dominance leads to expansion, the accumulation of resources, the maintenance of order through hierarchy and the tight control of subordinates inside and outside organizations.

Since awareness of the consequences of environmental degradation and resource scarcity has grown and the idea of limits has become "an idea in good currency" (Schon, 1971), a widespread--although amorphous--movement has arisen whose goal is to halt industrial growth, establish steady-state economies and scale down both public and private enterprises--and the state--to the level of "small is beautiful." Envisioned is a reinstatement of the conditions of the placid, clustered environment in terms of Emery and Trist (1965). This model, in which the world would become an archipelago of largely self-contained relatively small communities, is the opposite of Paradigm I and is called Paradigm D. It represents the main alternative to Paradigm I that is being proposed at present and expresses a world view that is anti-industrial.

One version of D is arcadian. Deeper perceptions and values seek a return to a more pristine world lost during industrialism. Another version of D is spiritual and is reflected in religious fundamentalism or the mysticism of Eastern philosophies. It seeks to achieve spirituality through simplicity, frugality and austerity, with a corresponding turning away from materialism. Both versions share common values from which one may infer that a common paradigm underlies them, such as, for example, their withdrawal from a world driven by the technological imperative and from the exclusive use of left-brain logics.

Historically, Mao, during the period when he gave primacy to the

development of new forms of decentralized rural communities, may be our best example of a secular--and Gandhi of a spiritual--version of Paradigm D. We may note that currently China has turned away from Mao and that, although India followed Gandhi to gain independence, it abandoned him thereafter. Yet if recession and unemployment persist in the West and if their depth and scale increase in societies that are experiencing extreme destabilization in key dimensions, we may expect many versions of Paradigm D to be espoused in the life-styles people choose as they attempt to find meaning in existence under conditions of limited material resources, overwhelming complexity and intolerable uncertainty. They are likely to be far more widely followed than those that emerged during the 1960s. Recent events in Iran may indicate a rising trend of religious fundamentalism which may spread to other parts of the Third World, while the rise of the so-called "moral majority" in the United States shows that Western countries are not immune.

We attempt to show that while I is being eroded, D, despite the attractiveness of many of its features, is scarcely a feasible alternative, at least in its pure form, nor is it altogether desirable in certain of its features. We further show that under turbulent conditions, the continuance of I and the trial of D both appear to lead to stalemates. A third path therefore needs to be discovered if a positive future for all humankind is to be reached without intolerable suffering and unnecessary regression. Although this third path will contain features of both I and D, in its totality it will represent a different configuration. It is called Paradigm S, as the formation of symbiotic partnerships represents its basic system principle

Selected Institutions

In shifting to Paradigm S existing societies will undergo morphogenetic change. This will occur incrementally although at multiple points. Nevertheless, there will be a discontinuity. The new modality will involve a redistribution of some I and some D components rather than their

annihilation, yet the new configuration will be qualitatively different from the old. It represents a new and higher logical type (Whitehead and Russell, 1910-13) whose values qualify and constrain those of both I and D.

The method is followed of tracing the actual and likely influence of the three paradigms on 12 selected key institutions in advanced Western industrial societies. Treatment is restricted to this set of societies in order to retain a broad overall cultural similarity and because these are the societies which, through having developed industrialism, have had the greatest effect on the rest of the world.

The first five of the selected institutions operate at the overall or macro level of the society and represent major forms of political, economic and social activity conducted at this level. The next two are at the intermediate or meso level, being, respectively, the main instrument of economic power and the main form of human settlement. The two that follow are at the micro level and are its key manifestations. The last three are cultural patterns that influence the others in a general way but, like them, are embodied in concrete institutions. All 12 institutions express aspects of the overall paradigm. They are shown in Table 1. Table 2 summarizes the characteristics they exhibit under each of the three paradigms.

Table 1 Selected Institutions

Macro	Nation State, Market Economy, Welfare State,
	Patterns of AC-LDC relations,
	Representative political democracy
Meso	Private corporation, Metropolitan city
Micro	Nuclear family, Autonomous individual
Cultural	Classical science,
	Pattern of technological choice,
	Continuous formative education

Paradigm I

If Paradigm I is indeed undergoing erosion, evidence of dysfunctionality is to be expected in each of the 12 institutions. The character of the expected dysfunctionality should be such that it cannot be corrected within the framework of Paradigm I. A reversal would be possible only on an alternative paradigmatic path. Although it is not possible to estimate the degree or rate of the erosion, processes that are likely to be uneven in the different institutions, it should be possible to indicate, qualitatively, whether or not they are irreversible. The criterion for deciding this is the extent to which the negative trends identified are of a kind that will prevent the development of the type of response capability required for survival in a turbulent, as distinct from a disturbed-reactive, environment.

Macro. At the macro-social level the world has become arranged in a set of independent sovereign nation-states which have become so interrelated that a condition of global interdependence exists, incompatible with unqualified sovereignty, politically, militarily or economically. Slowing economic growth and advancing technology are increasing unemployment under conditions which are reducing public spending. The welfare state can no longer compensate for the maldistribution of wealth in the advanced countries (ACs), while the gap between them and the less developed countries (LDCs) is widening. Slower growth is likely to lead to less aid. Crisis conditions are developing in relation to problems of debt, food, drugs, crime, population and war.

Representative political democracy, strengthened in association with the first industrial revolution, has features, listed in Table 1, which prevent it from coping with the rapidly changing global environment that has now emerged. Short electoral terms turn attention away from the longer run.

Table 2
Comparison of the 12 Key Institutions

Paradigm I	*Paradigm D*	*Paradigm S*
Nation-state		
Absolute sovereignty linked to national security and a national economy	Small natural autarchic societies; no formal state	Limited sovereignty, multilevel allegiances, relatively autonomous regions
Economy		
Worldwide free market premised on continuous (blind) growth (converse centrally planned)	Local markets, steady-state economy, demonetarization	World, regional, national, and local markets, free & regulated; integration of formal and informal economies; selective managed growth
Welfare state		
State takes on welfare function to compensate for maldistribution	Welfare state replaced by community care	Wide variety of partnerships among state, community, and private sources
AC-LDC		
Empire, colonies, hegemony, dominance dependency	AC withdrawal; LDC self-reliance, delinking	ACs help LDCs pursue own development goals, restructuring of trade, redressing of resource consumption imbalance
Representative political democracy		
Representative political democracy, short electorial intervals, legislative particularism, administrative displacement, coalitions producing least change	Community politics based on direct, participative democracy	Marriage of short- and long-term policies, innovative mixes of representative & participative democracy, using electronic technologies, capacity for major change
Technological choice		
Technological imperative, high technology preferred, nonrenewable resources favored, environment neglected	Human imperative, intermediate technology, renewable resources only, environment primacy	Joint optimization, full range of technologies, harmonization of human needs and environmental conservation (ecodevelopment)
Education		
Continuous formal education to adulthood specialization analytical capacities, competitive values and social compliance encouraged	Deschooling, emphasis on cultivation of personal interests and holistic learning	Multiple channels and forms of learning, competence and personal development both cultivated, generalist-specialist balance, collaborative values and independent search

Table 2 (cont'd)
Comparison of the 12 Key Institutions

Paradigm I	*Paradigm D*	*Paradigm S*
Corporation		
Dominance of large-scale, high-tech firms, bureaucratically organized whether ownership private or public (TNCs encouraged)	Cooperatives and other forms of small enterprise only	All types and scales as appropriate; small-in-large, organizational democracy
City		
Uncontrolled growth, inner decay (AC), Favella (LDC)	Dissolved into small self-reliant communities	The diffused city or microregion, interdependent urban fields
Family		
Isolated nuclear family, smaller, strained, insecure	Various types of living units supported by *Gemeinschaft* mentality in closely integrated neighborhoods	Multigenerational families with friends and neighbors as age-cohort supports
Individual		
Individualism win-lose, he oriented, having oriented, privatized	Cooperative win-win, she oriented, being oriented	Balance of cooperation and competition, both she-he & being-having orientation, "individuation," socially responsible individuality
Science		
Classic scientific method; linear causation, reductionistic left-brain logic hard data	Anti-hard science, intuitive, holistic contextual approach, capabilities of right brain	Balance of analysis and synthesis, knowledge and wisdom, both sides of the brain—wholebrained; synergy from reconcilation of the two cultures

Legislation tends to be corrective rather than anticipative, issue specific rather than addressing interrelated meta-problems. So much is left to the bureaucracy that public participation is minimized. Governments dependent on coalitions within or between parties whose support bases are roughly equivalent, as they tend to be in most Western countries, move further to the center when in power. This yields only marginal change, when substantive change is required to reduce turbulence.

Meso. The private business corporation is designed to pursue solely its own ends in competition with other corporations. This principle of competitive individualism has provided the basis for the growth dynamic of industrial societies. Now that limitless "blind" growth can no longer continue as the central underlying societal goal, the appropriateness, without modification, of the institution created to pursue it must be called into question. Large numbers of large organizations, all acting independently in many diverse directions, produce unanticipated dissonant consequences in the overall societal environment, which mount as the common field becomes more densely occupied. Especially when further limited by a finite resource base drawn on by all, the corporation can no longer act simply as an individual entity but must accept a certain surrender of sovereignty much as the nation-state. In conformity with the market model, the costs of products sold has been calculated so that only those factors directly influencing discrete commodity transactions between buyer and seller have been included. All other factors have been "externalized." These factors have now reached a scale where they can no longer be borne by the public domain.

On the organizational side, the corporation has taken on the form of the technocratic bureaucracy. Especially when it is large, internal transfer costs have reached a disproportionate level, creating diseconomies of scale. Moreover, it is exercising an increasingly alienating effect on its members through authoritarian controls and narrowly prescribed jobs. The corporation has therefore developed an organizational modus vivendi which is the opposite of that required to meet the challenges of uncertain complex environments and to develop the innovative capabilities that employees at all levels require under these conditions.

Given the need to concentrate productive facilities, the people employed in them and the services and infrastructure required, industrialization and urbanization have proceeded in association. The urban setting in the wake of the automobile has become transformed into the metropolitan area or conurbation with vast belts of suburbs and new or

relocated industries on their outskirts. The inner city has been allowed to decay, with its tax base undermined, unemployment high and crime and violence mounting. The transportation costs of maintaining a large extended urban system are becoming exorbitant as energy costs increase. These also adversely affect large buildings, particularly those constructed in the modern manner. The major urban areas have also become centers of decision-making, whose concentration in them symbolizes the center-periphery model (Schon, 1971). The level of complexity has passed the threshold of what can be managed from centers, whether in government or industry. The community has been dissolved into the conurbation.

Micro. The joint processes of industrialization and urbanization have isolated the nuclear family from the wider support of the extended family, whether regarding generational or collateral kin. While the gain in freedom from kin obligations has enhanced mobility, both upward and geographic, the price has been paid in the strain thrown on the husband and wife marital relationship (Bott, 1957/Vol.I). The lesser number of children tends to increase this strain, as does the prevalence of the double wage-earner pattern (Rapoport and Rapoport, 1971). Divorce has become epidemic. Among minority and other disadvantaged groups the single-parent family has become dominant.

The home as a security base for the nurturance of children is being eroded at a time when a foundation of security has become the more necessary to enable the personality to develop in ways that will give to the growing individual the confidence to take risks and experiment in innovative directions--essential capabilities in contending with complex, fast-changing environments. The isolated nuclear family, even if intact, tends to become defensively closed, having few natural links with the community, when an increase in grass-roots participation is required to offset the deficiencies of the technocratic bureaucracy and the center-periphery model.

The concept of the autonomous individual derives from the sanction of individualism that was among the necessary conditions which allowed the

market economy to develop (Vickers, 1983). It parallels the individualism of the nation-state, of the corporation and of the nuclear family. All four concepts assert independence and deny interdependence.

So long as individualism was rooted in a widely accepted religious or social ethic (such as the Protestant Ethic), it could remain responsible. The individual could pursue his or her purposes in the belief that they were also the purposes of society. But in recent decades this connection has become broken so that the individual has become privatized. He or she becomes less able to make commitments through which to take meaningful social action at a time when such commitments have become more than ever imperative.

Cultural. Since the 17th century science has become a major institution in advanced industrial societies. Without the technologies derived from it, they could not have developed. The classical scientific method is based on an analytic approach to problem-solving: the focal feature is isolated; the whole decomposed into elements. Linear causation supplies the logic; reductionism, the path of explanation. This model cannot explain system connectedness, which is concerned with interdependencies and the way parts are related to wholes (Angyal, 1941). This is the problem of synthesis, as distinct from analysis. In the world that is now emerging interdependencies have acquired salient importance. A beginning has been made in understanding them by the development of "systems" thinking. The hold of the analytic approach, however, remains strong and has broken up the scientific field into separate disciplines and subdisciplines whose associated academic and professional interest groups are protective of their own turf and disinclined to collaborate. The analytic approach has made society left brain dominant in its cognitive structure. It now needs to develop a complementary synthetic capacity to deal with interdependencies and wholes, which involves intuition and feeling--devalued in advanced industrial societies.

Economies of scale are sought so that production becomes large-scale wherever possible. Considerations of cost bring about the substitution of machines for humans at every opportunity, so that industry has become

capital rather than labor intensive. In the development of new products every use is made of the sophistications of applied science so that a very high level of technical complexity results, the expense of which increases central control of resources.

Until relatively recently there seemed to be no limits to the development of technology on these lines. During the last 20 years, however, a number of limits have become evident. It was assumed that no serious harm to the physical environment would arise from the pollutants deposited into it; it is now known that the long-term threat of environmental degradation is unacceptable and that some threats require immediate countervailing action. It was further assumed that little harm would come to the individual, whether as consumer or as worker, from manufactured products since the main hazards were known and reasonable safeguards provided; with the immense increase in products (especially chemical products, including their use in food) and video screens and television, it is now known that hazards are multiplying in dangerous ways. Another assumption was that a supply of cheap energy would persist indefinitely. The falsity of this assumption began to be understood only when OPEC created an oil crisis for an unprepared world. Coming to terms with these constraints requires a pattern of technological choice that lies outside the logic of Paradigm I, which is premised on the technological imperative as much as on unconstrained economic growth.

The structure and curriculum of schools have been evolved by authorities whose cultural mission has been to transmit the values of Paradigm I and to equip the individual to cope with a Paradigm I world. Therefore analytic capability has been cultivated, specialization assiduously promoted and respect for, and dependence, on expert knowledge ingrained. Orderliness and acceptance of authority have been extolled as virtues required for success in the world of bureaucratized work for which education prepares.

The values inculcated have been based on competitive individualism. Entry into professional and executive elites has been reserved for those who have been able to survive in the educational struggle. The

knowledge acquired during the formative period was supposed to last a lifetime, as was the occupation for which training was undertaken. With the knowledge explosion and the need for career changes, these presuppositions have become untenable.

In the last two decades alienation from the educational system has become widespread. The capabilities and values sensed as pertinent to successful adaptation to the conditions of environmental turbulence are not those which the student is expected to develop or abide by. He or she has a feeling of being instructed by teachers who know little about the world he or she will have to live in--indeed, that formal education may prevent him or her from learning what he or she most needs to know.

The analyses which have been made of the 12 institutional domains show that a fundamental mismatch exists in each of them between certain of their inherent properties and the demands of the new type of environment which they, as a configuration, have brought into existence. Each contains a contradiction which cannot be resolved within Paradigm I. This situation exists at the macro, meso and micro levels of the society, in dimensions as different as the economic and the cultural, and affects external as well as internal relations.

Since the kind of dysfunctionality revealed is not reversible under Paradigm I, it follows that it will continue so long as Paradigm I persists as the guiding framework for advanced industrial societies. Moreover, as this dysfunctionality is arising from the interplay of dynamic forces, it may be expected to increase.

There are many signs that institutional dysfunctionality is increasing at the present time and that this increase is becoming widely perceived in the direct experience of quite large numbers of people, although its causes are not well understood. Hopes still persist that functionality may be recovered by means within the scope of Paradigm I and that the lost stable state of which Schon (1971) has written may be restored. The likely occurrence, however, of crises during the decades ahead that will be even more

destabilizing than those already experienced will begin to dash these hopes. People will then be more inclined to search for the basis of an alternative social order and to confront some of the immense problems of transition and of change management to which any steps toward building it will give rise.

Paradigm D

History. The perspective of Paradigm D sees the various dysfunctionalities of I as proceeding from the richly joined character of the environment it has produced. The basic remedy, therefore, is to reduce the extent to which the environment is richly joined. The means advocated are to create the world of the Type II (placid, clustered) environment in the Emery-Trist typology. In Ackoff's (1974) sense, the pattern is "reactive."

Since the beginning of industrial societies there have been various groups that have regarded industrialization and the urbanization that has accompanied it as a maladaptive direction of development and that have proposed an alternative that would preserve Type II characteristics. Be it noted that this alternative was not, and is not, socialism. Socialism, as a world view, established itself during the 19th century, whether in a Marxist or a non-Marxist form, as an alternative not to industrialism but to capitalism. From a D perspective socialism is the continuation of industrialism in a collective form. The Soviet Union represents one socialist path. On a different political basis, the social democratic parties in Western Europe are similarly concerned with promoting further industrial development rather than an alternative to it. China now appears to be set on the same course.

The alternative to industrialism envisaged by secular D thinkers is related to the cultural tradition of anarchism, which is concerned with the decentralization and simplification of complex societies and the removal of all forms of domination, especially that of the state. There are many varieties of thinking within this tradition which, broadly interpreted,

includes Thoreau as well as Godwin, Robert Owen as well as Proudhon, Tolstoy as well as Bakunin, William Morris as well as Kropotkin and Gandhi as well as Malatesta. This tradition is centered not on economic but on social theory and has a conservative no less than a radical side, encompassing the gemeinschaft sociologists who follow Tonnies and Catholic writers such as Greeley who emphasize the value of direct face-to-face relations in ethnic neighborhoods and small firms, which they contrast favorably with the depersonalized forms of interaction common in the large organizational and urban systems characteristic of "modernism." Many of the groups that founded utopian societies during the 19th century belonged to this tradition, as in some ways did Jefferson and those who upheld the custom of the New England town meeting.

In the 19th century and for most of the present century, Western countries have been engaged in completing the process of industrialization. Only in countries of the Mediterranean littoral--Spain, Italy and, to some extent, France--did anarchist movements of any consequence arise--before industrialism was well established. The Bolsheviks crushed the Russian version immediately after the October Revolution. The anarchist communes and workers' committees set up in Andalusia and Barcelona during the Spanish Civil War were as unwelcome to the Spanish communists as they were to the Franco forces. After the Republican defeat anarchism as an active tradition seemed to disappear. Even its influence on the arts in such movements as Dadaism and surrealism was forgotten.

Now, however, that industrialism is beginning to be seen as a process which, in approaching its limits, is producing dysfunctional consequences, over and above recession and maldistribution of wealth, a reappreciation of the anarchist tradition has been made by various writers such as Colin Ward (1973) and Murray Bookchin (1982) among contemporaries who represent the D perspective. Friedmann (1973) has refurbished it in his idea of a cellular society, as have several writers concerned with self-organizing systems. D has emerged in the context of concern over environmental

degradation, the energy crisis, the nuclear threat, the women's movement, anti-materialism and the more general perception that the physical resources of the planet are limited. A powerful contributing factor is the experience of increasing dysfunction in big government, big corporations and big cities. These are all seen as maladies consequent on the advance of industrialism. The task, therefore, is "to dismantle advanced industrial societies." The D perspective has given rise to a scenario for the human future that replaces a growth model with a steady-state model, postulated as necessary to stop the uncontrolled positive feedback of the self-exciting systems (Vickers, 1968) which have compelled societies under Paradigm I to seek continual expansion. Its effect on the 12 selected institutions may be conjectured as outlined below.

Macro. Nation-states would become an archipelago of autarchic small communities. The superpowers and former "great powers" would dissolve into regional groupings with distinct linguistic and cultural identities. In place of the "state" would be voluntary federations of naturally associated communities in which coercive political power would be eliminated and self-regulation maximized. Intercommunity conflicts would be settled by negotiation among those directly concerned. There would be no attempt to dominate and, therefore, no war.

The steady-state economy would consist of cooperatives, employee-owned firms and personally run small private businesses. This largely localized market economy would be balanced by a demonetized economy that would include a variety of gift and barter arrangements and a great expansion of "do-it-yourself" activities making use of facilities provided in community workshops. Production would be for use and for durability.

The welfare state would be replaced by community care. Hospitals would be under community control. The medical profession would make maximum use of paramedics and would teach people to understand health from a holistic viewpoint and to take increasing responsibility for it themselves. Social workers would be concerned mainly with building voluntary services. Pensions

would become a local responsibility.

ACs would undergo what Erlich (1981) has called de-development in order to limit the proportion of the world's resources they consume. The principle of self-reliance would delink the two sets of economies. Trade would be encouraged to develop on South-South rather than North-South lines. Emphasis would be on the development of local economies and individual societies advancing on the basis of their own cultures.

Representative political democracy would be replaced by community politics based on direct participation. Representatives would be responsible to citizen assemblies. Problems of intercommunity relations would be handled by those directly involved meeting as members of temporary systems periodically convened for the purpose. Work at the federation level would be a service undertaken a very few times only by any one individual. The role of professional politician would no longer exist. All key decisions would be made by the community itself and all key intercommunity decisions would be ratified by the communities concerned.

Meso. The large corporation would be eliminated. This would remove the maladies of bureaucracy and technocracy. Whatever large-scale production might still be necessary would be under community control. The approved technologies would be environmentally sound and conserving of resources. Greater technical simplicity, along with smallness of scale, would reduce the degree of specialization and the consequent dependence on the expert. The level of participation would be high and organizational democracy would become a reality. The immediate quality of life in the various types of workplaces would be high. There would be a good deal of local innovation.

The metropolitan urban area would be dissolved into sets of relatively small communities, each of which would maximize self-reliance. The urban and rural worlds would merge. Urban agriculture and minifarming using intensive methods and growing a large variety of crops would be much in evidence. Housing would be solar heated and relatively dense in neighborhoods with diverse inhabitants. All age groups would remain together. There would

be no poverty and no very large incomes. There would be immediate access to a wide range of amenities. One scenario of a habitat of this kind is Friedman and Douglass' (1975) "Agropolis." A visionary scenario looking into the far-future is W.I. Thompson's (1976) "meta-industrial village." Transport requirements would be reduced. Private vehicles would be simple, such as bicycles. Public transport would use the most energy-efficient and pollution-free forms of fuel, avoiding nonrenewable sources. Large central utilities would be eliminated. Full advantage, however, would be taken of microelectronic technologies as an aid to decentralization.

A wide scope for participation in local cultural, sporting and other types of recreational events would make spectator sports marginal. In an environment where known individuals replace strangers and subgroups are neither segregated nor placed in inherently conflictual relations, crime would be less and the community would largely police itself. The physical forms of the city in all its aspects would be designed on the human scale as a setting for life-styles premised on self-reliance, direct democracy, egalitarianism, personal growth and a concern with nonmaterial values.

Micro. Given that people would now be living in relatively compact geographical areas, each affording a wide range of opportunities, they would be under no compulsion, as they are at present, to move to other areas for reasons of work and would, in any case, be in easy access of each other. These conditions would permit some revival of the extended family, but the main emphasis would be on the recovery of the gemeinschaft mentality in integrated neighborhoods. There would be dependable neighborhood support for a wide range of reciprocal services and scope for many types of communal arrangement. Many forms of relationships between men and women would be tolerated. Because, however, permanent marital relations would not be forced on anyone and because of the emotional support available from the neighborhood group, marital stability would tend to increase rather than decrease. Children would also benefit from relations with wider kin and well-known and caring neighbors.

Privacy and distancing would also be necessary in a densely configured field of relations which would never be conflict free. These would be obtained by visits, temporary stays or more permanent moves to other parts of the city which would still provide a familiar environment containing known individuals.

Paradigm D proposes to resocialize the alienated, dissociated and privatized individual through experience of the type of supportive family and community setting described. Moreover, the type of work he or she is likely to do will be more under his or her control and give more scope for initiative and creativeness than that which he or she is likely to be doing at present. With the opportunities to amass great wealth or power removed, he or she is forced back on the intrinsic value of what he or she does and is. While being encouraged to develop himself or herself, the individual will have increased obligations to others in the family, work and community settings. In Vickers' (1983) terms, he or she will become a responsible rather than an autonomous individual.

Cultural. Paradigm I overemphasizes the logical analytical capabilities of the "left brain." Paradigm D proposes to overemphasize the intuitive, holistic, contextual capabilities of the "right brain." Analysis has enabled science to develop and, in so doing, to provide the basis for advanced technology. In the D perspective this has coproduced the growth dynamic along with the market economy. It represents the compulsion to master and dominate the environment rather than to be in harmony with it. It is therefore anti-ecological and potentially disastrous. While it is entirely proper to reemphasize holistic approaches, the D perspective does it in order to reduce complexity rather than to provide a means of coping with it and, for this sake, is prepared to curtail scientific advance.

Technology would be appropriate to the values of the society. Proscribed would be any technology that used nonrenewable resources or caused any avoidable harm to the environment. Energy futures would be worked out in terms of soft, as distinct from hard, energy paths (Lovins, 1977). A D

society would be a low-energy society. Care for the ecosystem as a whole would take precedence over human needs.

Complex technology would be avoided because it is inherently elitist, placing too much power in the hands of specialists and tending to induce centralization. A great deal of current technology would be phased out and research into avenues of high technology that would edge the society away from its chosen idiom would be stopped. Mass production would be discouraged. Emphasis would be on custom-made goods designed for durability and on craftwares with aesthetic attributes. This pattern, taken as a whole, would slow down the rate of technological change. The cost would be accepted as a benefit.

The present system of continuous formal education until adulthood followed by a long period of continuous work would be replaced by discontinuous education throughout life. The school as an institution would recede, as learning would become an inherent part of all activities. The emphasis would be on providing the conditions for personal development rather than being focused on preparation for a job. Holistic appreciation would be encouraged. Since the world of work, in the sense of employment, would no longer be central and would, in any case, be simplified, there would be immense scope for the cultivation of personal interests and talents in other fields.

Critique of D. Advocates of D postulate that no relevant changes toward D can be brought about from within I. To work with organizations and people who belong to what is referred to as the "Big System" in the hope of changing them into effective agents of D is a futile exercise. Repeated experience has shown that the constraints on individuals and organizations operating with the D paradigm are too great to permit this to happen. Reformism is not a feasible strategy. Therefore one should dissociate oneself from the main society and devote one's energies to activities that embody D alternatives. If one has to remain in the Big System to earn a living, one gives the least one can to it, rather than the most.

Disentanglement from I involves, as a corollary, laying the foundations of D in a distinct and separate social (although not necessarily geographical) space in which the conditions of the future D society can be brought into existence and tested on a small scale. The alternative society growing up in the wings while the Big System still occupies the center stage will be made as self-sufficient as possible and will use minimum resources. It will demonstrate the relation between self-regulation and collaborative values. The aim will be to make the life-styles involved attractive to others by the evidence of personal fulfillment in their adherents. There will be economies achieved through greater self-reliance. There will be more security through wide social support, more personal satisfaction through having more under one's own control and more creativeness through enhanced opportunities to try out new things. There will be less anxiety and less hassle. The path toward D will succeed in attracting large numbers of people so far as the atmosphere it exudes is life-enhancing and expressive of the positive affects (Tomkins, 1962) rather than life-denying and expressive of the negative affects associated with Paradigm I. The strategy of Paradigm D is to proceed now with building an alternative way of life so that, as societies still based on Paradigm I begin to collapse, the alternative will have sufficiently demonstrated its validity to take over.

While some D characteristics are attractive and will be retained in Paradigm S, others are undesirable and still others are infeasible. Among the undesirable are the following;

- Interdependence is confused with dependence, to overcome which extreme forms of independence are advocated that push self-reliance toward self-sufficiency.

- This principle would dissolve the world into an archipelago of scaled-down autarchic communities, all of which would strive to minimize their interactions with each other.

- Such communities would be variety-decreasing, tending to become closed systems.

- The placid, random environment sought would become static, inducing stagnation.

Attempts to reduce overwhelming complexity in ways that are merely defensive, as are the strategies of Paradigm D, would produce conditions that, whatever their merits, would have negative aspects as described above that would cancel out their advantages.

The infeasible characteristics are no less serious:

- The pure D scenario involves dismantling urban-industrial societies on a scale and at a rate that is impossible to achieve in any foreseeable future.

- The strategy of waiting in the wings while an alternative society builds up in minority groups would be too slow to prevent severe disorders and a number of disasters from occurring. The rate of dysfunctional increase in Paradigm I is proceeding at a rate faster than this strategy can meet.

- The degree of suffering that will occur if one waits for the collapse of I to begin before attempting proactive social architectural intervention by all relevant means and through all possible access routes is too great to be acceptable to those concerned with a "human" future.

The Search for Paradigm S

The Basis. In relation to I and D, Paradigm S stands in a

"both/and" rather than an "either/or" position. It contains components of both in a new framework:

(I, D) transformed = S

In the terminology of Whitehead and Russell (1910-13), S belongs to a higher logical type than I or D, whose characteristics it qualifies and constrains. Although it operates on principles different from those of either I or D, it does not expunge their characteristics entirely but repositions them in a changed and broader context.

Dysfunctionality in I had first to reach a point where D began to appear in the form of I's opposite. In themselves, I and D are incompatible and stand in contradiction. So long as they are perceived as the only alternatives, dialectical struggle between them ensues: D must annihilate I or I must prevent the emergence of D. But once it is perceived that D has negative as well as positive properties that will prevent it from solving the problems created by I, which also has some prestige properties, the way is open to search for a third alternative.

Under the conditions of I, ACs dominate LDCs, which seek to escape from their predicament by self-reliance. This is to deny the value of a two-way relation of interdependence, which cannot, however, exist unless each party has both an independence value and a need for the other. Such mutually advantageous symbiotic relations are the conditions that Paradigm S seeks to create. Dominance and dependency are replaced by a balance of interdependence and independence. The ideal could be stated as either an optimum level of interdependence or an optimum independence value. Genuine interdependence is selective and reciprocal. It does not require the parties to be equal but that each should recognize the need for the well-being of the other so that symbiotic partnerships can be formed. The necessity of symbiotic partnerships arises because both belong to the same whole (the world), which has become so interconnected that no one part can be damaged without adverse effects on the

others. The separate interests of all parties may not be wholly satisfied in whatever joint ventures should be undertaken, but gains will on balance outweigh losses and keep solutions in the win-win mode.

An S-type alternative is available for several of the other seemingly incompatible dichotomies of I and D. In addition to blind unregulated growth, or no growth, there is the possibility of selective regulated growth, which can harmonize the need for growth with the requirements of the environment, as Sachs (1980) has shown in his theory of ecodevelopment. Regarding scaling down, the D perspective does not allow for the possibility that organizational systems can be designed so that the small can exist in the large with considerable autonomy, that the bottom can influence the top and that the number of levels can be reduced when they are mutually articulated and perform distinctive functions rather than acting simply as external controls over lower echelons. The most important of these functions are environmental scanning and boundary management. Once it is realized that size is not necessarily evil, the need completely to detach oneself from the Big System no longer holds. Any human future will contain some large systems. The task is to transform them in the direction of greater self-organization among their parts, not to insist that they must always be decomposed into small independent units.

Paradigm S is a process, not an end state. Its characteristics are evolutionary. It is not possible, therefore, to set them out in the same way as has been done for I and D. Nevertheless, in what follows the general direction of S development is outlined for the same set of institutions.

Macro. Nation-states would remain but their sovereignty would be limited. Some powers would be transferred to larger, others to smaller, units so that a multilevel system would be brought into existence. The evolution of some such system is necessary to embody the realities of interdependence while preserving those of independence.

An individual will need several identities, with accompanying rights and obligations: as a world citizen, as a citizen of a region of the

world and as a citizen of a particular society and of some entity more immediate and closer to him or her than such a society. The principle is the same as with multilevel organizations; the levels are complementary and perform different functions that are mutually articulated. All powers are limited and are vested in the various bodies by agreement, not by imposition. The vision is that of an evolving negotiated order.

The notion of a national economy makes no more sense for the future than the notion of a sovereign nation-state. A new set of arrangements will have to be worked out. For some commodities trade would continue on a world basis; for others it would be regional; for others, again, it would be local, where self-reliance would be appropriate. The distribution among these alternatives would vary. There would be a free market for some goods and services and a regulated market for others, while the option would be retained for the production or delivery of still others by public means. The informal or dual economy would be recognized and arrangements made to foster its appropriate expansion. Envisaged is a set of choices in which a wide variation in emphasis is possible according to the efficiency of outcome and preference for mode.

Growth would be regulated according to the principles of ecodevelopment. Controls could be local, national, regional or planetary, as required, but would be held to a minimum, although strictly enforced.

Regarding the welfare state, a number of different configurations would be possible blending state, community and private contributions. Paradigm S is committed to meeting basic human needs for shelter, food and health care on a worldwide basis so that a transnational dimension would be present. No-one would be left in "ill-fare." While preventive and holistic medicine would be encouraged, there would be no neglect of classical medicine or of the research and development associated with it. Issues such as population control in Third World countries would be addressed by new schemes, as would those of the increasing proportion of the aged in the more advanced countries. Unemployment consequent on the advance of microelectronics and

other new technologies will pose new problems regarding the role of paid work and the distribution of wealth. A new charter of entitlements will have to be worked out that will be socially just yet pay attention to cost effectiveness and limits on taxation. The underlying value would be to enhance the well-being of all individuals.

A major effort would be undertaken by the ACs to end the poverty of the LDCs. The LDCs themselves would make proposals regarding how this might be done. It would then be up to the ACs to find ways to help them. The pattern of development would not follow that of Western industrialism. In many areas rural development would have priority, where intermediate technology would play a leading role. But advanced electronic and communications technology would also be important. Patterns of industrialization would vary. The rural push phenomenon would have to be ended before effective solutions could be found to the problems of the large urban centers. The ACs and LDCs would not be delinked. Trade relations would be reconfigurated. Overconsumption of resources by ACs would gradually but effectively be reduced.

Institutions will have to be evolved capable of correcting the shortcomings of representative democracy or else none of the main issues of the contemporary problématique is likely to be addressed. The social architectural task is to devise a system that will permit questions of the long run to be taken up, comprehensive strategies to be evolved to deal with meta-problems and major change to be introduced that will allow a paradigm shift to take place. All this will have to be done with the active participation of the electorate on a scale not so far envisaged. A beginning may be made by securing a clear appreciation of the issues in the population at large or, perhaps one should say, by allowing the considerable understanding already widely present to find expression. At first this would have to take place outside formal political parties as the recent growth of the environmental movement, the antiwar movement and the women's movement has shown. Such endeavors can, through networks, influence selected individuals

inside the system who need evidence of support before taking new positions.

New methods of developing "future-oriented social learning" (Michael, 1973) such as search conferences (Emery and Emery, 1977, Emery, M., Vol.III) and idealized design (Ackoff et al., 1984; Ackoff, Vol.III) have made their appearance. These methods, along with the continual reminders of growing dysfunctionality and the increasing number of proactive individuals, could diffuse changes in premises, values and beliefs widely enough to enable modification of the system to take place in the required direction with an acceptable level of conflict resolution. New technologies of communication are becoming available that can test public opinion at depth and rapidly mobilize it. Access to the media, however, will depend on the pressure created by the processes described above.

Meso. Pluralism would be the key to the forms of enterprise, whether large, medium or small, privately or publicly owned or set up as cooperatives. Societies would vary in their choice among these options. The loosening of the ties between economies and nation-states would facilitate transnational enterprise where this was the most suitable form, just as other conditions would favor localism when it would be more appropriate. The full range of technologies would be pursued--whatever would show itself to be most appropriate.

Organizational design would follow the principle of the redundancy of functions rather than the redundancy of parts (Emery, 1967/Vol.III) so that organizations would become sets of largely self-regulating subsystems, with a consequent reduction in the number of levels. This permits their democratization, the multi-skilling that accompanies group working and a high level of job satisfaction. Such organizations would be conceived of as socio-technical systems committed to the joint optimization of human and technical resources. Their design principle would permit them to contain small-in-large, so that bureaucracy as well as technocracy would be avoided. In addition, their governance would legitimate the participation of all stakeholders -- unions as well as management and representatives of the

community and of consumers.

Large metropolitan areas would need to be transformed under Paradigm S as much as under Paradigm D but, whereas under the latter they are dissolved into self-reliant small communit-ies , under the former the smaller units are interconnected in what Friedmann and Miller (i965) have called an urban field, which would contain rural elements. The process may be described as one of diffusion rather than dissolution.

A society needs settings of high quality to maintain standards and to stimulate change. Small communities by themselves cannot accomplish this, but an interconnected set of mutually open communities comprising an urban field could contain the requisite variety to generate the necessary excitement and accomplishment. The diffused city would constitute a microregion which may be defined as a diversified area within which the inhabitants can make return journeys to any part within a day. Most people would work somewhere in the region but would be based in one of the smaller constituent communities which would comprise their immediate living unit. These would be sufficiently differentiated to provide variety and complementarity so that a high level of regional interaction would be maintained. The microregion as a whole would share such institutions as a university, a theater, a symphony orchestra, a sports stadium, a major medical center, a major library, a television and radio station, a museum, a major ecumenical center etc. Many work establishments would be small or medium sized; others would be large and organized on small-in-large principles. However owned, all would have a high level of workplace democracy.

Although groups and organizations would put a good deal back into the community, the region would remain an open system to its wider environment. Regions would be different from each other and regional interaction would follow complementarities.

Micro. Since immediate living areas that constituted integrated neighborhoods would be available, the nuclear family would have similar advantages of social support under S as under D. Greater variety, however,

would be offered. One would not be forced to live in such a neighborhood through the absence of alternatives. There would be scope for different choices during different phases of the life-cycle. There would be less conflict and less stagnation in a more open than in a more closed community.

With the number of children being lower, generational rather than collateral kin would be the predominant form of the extended family. New patterns of relations between, and living arrangements of, four-generation families, which would become common, would have to be worked out. Within one's own age cohort, friends and neighbors would offer the principal sources of support, as in D. There would be scope for pluralistic forms of the family. As in D, where desired the home and the workplace would have the same location, but there would be much more choice as the variety of work settings would be far greater.

The conditions for changing the autonomous to the socially responsible individual provided under D would also be present under S, but the scope for personal development would be altogether greater. Continuous learning throughout the life cycle is necessary if the individual is to reach a higher level of self-realization and social effectiveness. Much that Carl Jung said about individuation and the third quarter of life may be recalled in this context. Paradigm S involves the rediscovery of the individual but in the sense of valuing individuality rather than individualism, which is a value pertaining to Paradigm 1. A balance of ''being'' and ''having'' would become an overall norm, with a wide scope for choice in emphasizing one or the other.

Ackoff and Emery (T972) and Emery (1977/VOI. III) have postulated that the most distinctive attribute of the human as a species is that he or she is ideal-seeking. This capability needs to be strengthened if a reduction is to be effected in the growing disorders of the current environment. The new institut- ions that require development are not institutions whose purposes the individual would serve but institutions which would liberate him or her to pursue his or her ideals, which paradoxically he or she can do only in appropriate social contexts. To fashion these contexts is a critical aspect of

the social architectural tasks
of Paradigm S.

Cultural. Paradigm S requires both analysis and synthesis, a whole-brained approach that makes full use of the capacities of both hemispheres and achieves a balance between the values which each represents. The need to understand interdepen- dencies has led to the systems approach which transcends the analytic method so that both sides of the brain are needed for the advance of science itself, which is an objective of Paradigm S.

Paradigm S equally values wisdom which has its origin in the intuitive and affective evaluation of experience, although it requires ''reason'' to complete the process of self-reflexion. Paradigm S also values the arts far more than Paradigm I so that a balance of the ''two cultures'' and their reconciliation can be expected. The aesthetic emerges as a central category of value (Emery, 1977/Vol III).

The choice of technology would be in terms of what was appropriate from the point of view of environmental conservation, the needs of any particular society and the world (the planet) as a whole. This principle gives scope for high technology, although it rules out destructive technology. The advent of the micro- processor has afforded new possibilities for decentralization and dissemination of information. Rapid and cheap communication is now possible on a planetary level. A primary task of an S-type society would be to build the institutions that would ensure realization of the benefits of environmentally and humanly safe leading-edge technologies, many as yet not on the agenda, while minimizing their costs.

''Consequence'' analyses would be carried out to identify likely harmful effects of any innovation (Ozbekhan, 197i). Risks of blundering into the unknown for short-term gains would not be accepted. Consequence analysis would also consider the likelihood of very long range negative effects, recognizing the rights of unborn generations.

Nuclear fission may represent too great a hazard for an S-type society in the longer term. Oil and gas need to be conserved and the

long-range deleterious consequences of burning too much coal are not acceptable. Therefore there is a need in the short and medium terms to make increased use of soft energy paths while managing the transition from more dangerous fuels so that disruption is minimized. In the longer term, too much remains unknown to commit the future now to a low level of energy use, as Paradigm D would do. A way of making hydrogen cheaply available as a fuel may be found. Sometime in the next century the fusion problem may be solved, with consequences that will have to be analyzed when the time comes. There will then be a choice. Meanwhile, an S-society will have much less need for an armaments industry.

The educational system of Paradigm S would combine characteristics of both I and D. The maintenance and development of advanced fields of knowledge on which the further under- standing of the world, society and the individual depends demand specialism, which would continue but on a background of generalism. Studies would be organized so that the part could be seen in relation to the whole.

Society would not be ''deschooled'' (Illich, 1971), as would occur under Paradigm D. Formal education would continue but not as the only channel. There would be multiple channels. Many ways and kinds of learning would be valued, including holistic appreciation. The importance of direct experience would be emphasized, not denigrated as it has been in the exclusive cult of conceptual knowledge (Emery, i 98 i /Vol. 111).

Learning would be lifelong. The formal parts could be embarked on full time or part time, continuously or discontin- uously, according to choice. Ample opportunities would be afforded for retraining with regard to career changes and for development needs during life-phase transitions.

The aim would be to enable all citizens to understand as much of the world, society, each other and themselves as they were capable and desirous of achieving. This goal would provide the best basis for the participatory democracy envisaged under D, which depends on the full development of the individual.

A type-S society could use an immense variety of talents and all levels of ability. Its educational system would provide the enabling conditions for their development while its activities, whether in the monetized or nonmonetized sector of the economy, in community endeavors or in cultural pursuits, would give scope for their expression. The contributions of all could be used, so that all would be valued. Paradigm S would make this possible because under its conditions there could be no ''system barriers'' against its realization.

Further work will attempt to identify a number of S-type processes that are already beginning to occur, whether in emergent values, systems concepts, modes of conflict resolution between organizations, characteristics of organizations themselves or preferred lifestyles among individuals. Nevertheless, the problem of making a transition from I to S without being trapped in D and in time to prevent the occurrence of some of the very serious disasters that may only too easily be envisaged is so immense that many people find pessimism and the inactivity which follows as its consequence the only ''rational'' attitude to adopt. This means giving up the search for a viable human future. Should it become widespread, such a giving up would in itself become a major factor in precluding its realization. The next task is to focus on the obstacles to be overcome and the nature of the dynamics involved and to suggest some of the innovations in social architecture that will be required.

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