Figure 10.5. Historical review

Next Step in Inter-organizational Relationships (1971)

Use of information, rather than organization, as the foundation for the inter-organizational activity of the future: Notes on the problems associated with the current crisis in the relations between intergovernmental and nongovernmental bodies, with particular regard to the United Nations Specialized Agencies and the consultative status arrangement.

This paper, prepared by A.J.N. Judge, Assistant Secretary-General of the UIA, was first published in 1971 as UAI Study Papers ORG/1*. Only the sections indicated on the Table of Contents below are reprinted here. The complete paper can be found at http://www.laetusinpraesens.org/docs70s/71next0.php*

Introduction

The Director-General *of* UNESCO clearly states in his "Long-term Out-line Plan for 1971-1976," on the subject of international nongovernmental organizations (NGOs) and UNESCO National Commissions, that:

"The moment has therefore come, I believe, to make a thorough review of the way in which UNESCO collaborates with these two categories of organisations. Practices have grown up which, with the passage of time, have become mere habit. They should be revised and, if need be, dispensed with, so that a new spirit – a spirit of greater initiative and generosity – may come into relations on both sides."

This series of notes attempts to show that the problems which gave rise to the above comments are also evident in the consultative arrangements with other Specialized Agencies of the United Notions system and are indeed symptomatic of a general crisis — in the relations between governmental and nongovernmental bodies (see Section A). If this is the case, then it is important to decide whether the incidents in the relations between IGOs and NGOs are to be considered as the problems themselves or merely as symptoms of some deeper underlying problem — as is to some extent implied by the Director-General's comment. If there is any possibility that the latter may prove to be the case, then remedies for the symptoms will merely enable the underlying problems to reassert themselves in new and unpredictable ways.

Restricting attention to the problems of NGO-IGO relations, obscures the fact that many such problems are in fact common to relations between NGO and NGO. No solution to the former can be satisfactory without a solution to the latter. A final aspect of the current difficulties of NGOs is that of lack of adequate resources and consequent ineffectiveness, whether in support of or independent of UN programmes. It is argued that this is an inter-organizational problem which can be solved by considering an inter-organizational solution (see Section A, part 3).

It is further argued that it is not sufficient to look at the problems which have emerged in the recent past. A serious attempt must be made to examine the problems which are likely to emerge in the foreseeable future (see Section B) so that any solution implemented now will not immediately prove inadequate to the demands placed upon it — or alternatively will not cripple inter-organizational activity to a sub-optimum level unrelated to its potential. An attempt has therefore been made to envisage the direction in which NGO activity will develop to highlight the problems and opportunities of inter-organizational relationships which will arise and in terms of which decisions should be taken now.

In an attempt to broaden the debate in the interests of all non- governmental organizations concerned with the effectiveness of their relations with United Nations programmes, a list of points has been developed (see Section D) to indicate some of the topics that could be discussed — from those involving insignificant changes to major changes.

There is a marked tendency to restrict the debate to the relatively narrow circle of each individual NGO Conference based on the belief that each such Conference is totally unrelated to any other NGO Conference. This view is opposed (see Section E) by showing that in fact there is a very high degree of overlap between the membership of the different NGO Conferences – aside from the fact that each Agency recognizes the interdependent nature of its relationship to other Agencies within the UN System.

Discussion of inter-organizational problems, and consultative arrangements in particular, is generally based on the assumption that it is possible to consider the administrative and programme relations between organizations without taking into consideration the people involved, either in their personal capacity or their capacity as representatives. This ignores some important functions of inter- organizational activity which must be considered in selecting any new arrangement. (sea Section F)

Another theme missing from the debate on the consultative arrangement is a recognition of the nature of the vast interlinking network of social structures which make up world society(see Section G) Some impression of this is conveyed, in a later section of the Director-General's report quoted above:

"Above all, UNESCO cannot hope to make an impact on the world unless it has a place for all the energies of a nature to associate themselves with its efforts. Its programme must be devised as an appeal, a guide, a focus for the mobilization of these tremendous multiform energies ..."

It is this network which provides, the "hidden" background or context for the debate on the relationship between NGOs and IGOs. The consultative relationship links are potentially most significant links, but their significance is derived from the extent to which the energies of the larger network are focused through them. If this network is ignored, however indirectly some parts are related to INGOs or the UN systems the international community is cut off from the sources of its strength a*t* the national and grass-roots level. If the consultative relationship problems are solved without considering the inter- organizational problems which have their origin in other parts of the world network then the continuing presence of the latter will quickly destroy any temporary benefits gained by superficial attention to the consultative relationship mechanism.

Just as UNESCO has to heed the warning given by the Austrian delegate. to the 1970 General Conference:

"It is unfortunately true that an organization whose activities and successes are known to only a few specialists simply does not exist in the mind of the public at large. UNESCO in particular just cannot afford to be satisfied with recognition by an élite alone..."

so, INGOs in general cannot be satisfied with an inward-looking attitude either towards themselves or towards the consultative relationship – when neither is widely known to international relations scholars, let alone to the "mind of the public at large." The consultative relationship can only fulfill its promise when it is deliberately related to other parts of the network and ceases to be "an old boy network club" (as one NGO representative recently expressed it) reducing "uninformed and irrelevant, outsiders" to a condition of apathetic frustrated onlookers (in those cases in which optimism persists). One possibility is described for galvanizing inter-organizational activity and the consultative relationship. This is based on the more dynamic use of information on the individual programme interests of NGOs and the possibility of facilitating much more frequent ad hoc inter-NGO activity (see Section H). This suggestion draws on descriptions of recent developments in inter-organizational techniques (described in two special Annexes), and hopefully by-passes most of the threats to autonomy detected in the rejected solution of NGO groupings. (An information system is described in Annex III).

No solution is ideal. The final section has, therefore, been devoted to the identification of some of the problems and opportunities which arise if an emphasis is placed on the use of information as an integrating factor in intern-organizational relations (see Section I).

International NGOs should take a careful look at the threats with which they are currently faced: rejected by some developing countries, ignored in the conception and implementation of major UN programmes, criticized for their lack of effectiveness, ignored by the mass media, labeled as racist or government-front organizations by some governments, considered insignificant by the majority of international relations scholars, "outlaws" in terms of international law, considered outmoded by youth, handicapped by lack of resources, etc.

International NGOs, to some extent through their imitation of inter- governmental procedures, have lost their pioneering role:

- in the eyes of the majority of governments and in the eyes of youth

- in the eyes of those concerned with the future, such as Elise Boulding, Professor of Sociology and President of the Women's International League for Peace and Freedom "This means that one cannot accurately speak of "world" images of the future emerging from these organizations. The images of the future so far generated by NGOs are western images. Until the transition to a more reality-based internationalism has been effected, one cannot look for guiding images from this sector of world politics." ("Futurology and the imaging capacity of the West; the theory of the image of the future." World Future Society Bulletin, December, 1970);

- and even in the eyes of a contender, unexpected by either IGOs or INGOs, namely the "other" nongovernmental organizations known as multinational corporations: "The executives of the world corporations are the natural hew loaders of a peaceful, humane world. In 1500 the papacy lost its dominance over men's minds; in the 1960s the leaders of the nation-states have also suffered a dramatic decline in confidence and power. The new world leaders are the creative executives of world corporations." (Arthur Barber. "Global problem- solving; a new corporate mission." Innovation, October 1970). And in support of this argument it is appropriate to recall that less than 1% of aid passes via intergovernmental structures.

This many-faceted crisis in NGO affairs should not be considered a disaster. In the evolution of social structures periods of crisis are inevitable and a sign of continuing growth. (The Chinese ideogram for "crisis" is a combination of the ideogram for "danger" and the ideogram for "opportunity".) The question is whether NGOs, in association with the UN system, can reject those habits which are no longer useful (and for which they are rightly criticized by youth) in order to seize the new opportunities available — or whether NGOs will cling to the outworn modes of operation, to be bypassed by new social processes.

Careful study is required to determine the most appropriate new methods needed to contain all features of the more complex NGO-IGO relationships or the future. In the next section some Specific Proposals are made which serve as a conclusion to the arguments and views expressed in the body of the report.

Annex II: Matrix organization and organizational networks

The potential association technique is closely related *to a* technique used to handle complex multidisciplinary projects, such as the effort to get a man on the moon. Projects of equivalent complexity are the essence of development and the regeneration of urban areas, for example. This new technique, of proven worth, is known as the project or matrix organization.

The success of the program to get a man on the moon is not only a technological triumph.

"Apollo 11 has been referred to as the most complicated piece of hardware ever conceived by man. The mind boggles when one tries to envision the total configuration of this undertaking from the millions of hardware parts through to the actual mission flight which encompasses a world-wide communications network. The managerial dimensions of the task are staggering....The administrative-management segment is perhaps less glamorous, and is prone to be overshadowed during the elation of accomplishment, but it is one that plays a vital role in achievement."

Development, peace and environmental problems are coming to be perceived as enormously complex — whether they are as complex as the task of getting a man to the moon is not yet clear. Many people would have wished that the resources devoted to the Apollo project could have been diverted into development type programs. But whatever one's views of the significance of the Apollo project and criteria of success, there is no reason why the technique used to manage this complex multi-disciplinary program should not be examined for relevance, as a technique, to the problem of relating the many organizations working to solve different aspects of the population-food-health-environment-peace crisis.

The management techniques developed by NASA are unorthodox because they must tie together: fundamental research on new approaches, development of research insights into realistic projects, contracting out aspects of the research, development or manufacturing programme (to industry, universities, governmental agencies, professional associations, etc.) programme initiation, programme implementation, coordination of the programmes of a maze of semiautonomous departments and institutions, human relations of a high order to blend together creative, talent, highly individualistic and sensitive to restrictions to their autonomy in their area of expertise, and external relations (with the general public, the press, government, industry, the academic community, and specialist groups). At the same time priorities and organizational patterns are constantly changing. To succeed in this complex situation necessitates the abandonment of most of the standard rules of management practice.

Each of the features noted above is present in the elaboration of development-peace-environment-food programmes. It is therefore probable that the NASA techniques may contain important clues for the improvement of such programmes.

But programmes depend for their final success (in problem-solution rather than administrative performance terms) on the participation of many people from different backgrounds, organizations (e.g., government, industry, universities, professional associations, youth groups, etc.), and disciplines (economics sociology, psychology, management, statistics, agriculture, communications, etc.) within programme frameworks which are as unrestrictive on decentralized initiative as is feasible. Consider some of the elements of the NASA philosophy. NASA decided that it would act as technical manager of a government-contractor- university team rather than be the designer and manufacturer of its various requirements — namely a team effort between essentially different types of organization. This meant an emphasis on contracting out work to non-NASA controlled bodies (whether government, industry, university or professional association).

A very important decision was the switch to the concept of a "matrix organizational structure" in contrast to the traditional hierarchical, one-man-one-boss structure. Within this new structure, each participating body — whether controlled by NASA or not— is considered to be at the intersection of influences from other parts of the structure and itself in turn influences several others. **It is a system which tends to diminish the visibility of authority and to emphasize consensus as an operative mode.** Every participating organization or department is therefore at the point of intersection of competing forces with each part giving particular expression to the overall system's goal. Operating decisions are part of the give and take of specialized units struggling for a share of the system's total resources.

A key part of matrix management is the presence of elements with the power of precise decision; able to freeze the dialogue of decision making at ad hoc points. In place of a rigid hierarchy and the pressure to conform to directives from the top, matrix management tries to substitute operating unit drive for expression within a climate of mutual respect united around fundamentals. Why the expression "matrix" organization? Consider a simple example below.

Figure 1: Matrix organization chart

	1. IGO A	2. IGO B	3. INGO A	4. INGO B	5. National NGO A	6. multinational corporation	7. Govt A	8. Govt B	9. Foundation A	10. Foundation B
Phase 1	X		X	X						
Phase 2	X	X	X		X					X
Phase 3			X			X			X	X
Phase 4		X		X	X			X	X	
Phase 5	X			X		X	X			X

The project is divided into 5 Phases and requires the participation of 10 organizations of various types. Organizations participate to a different degree at different Phases. At each Phase there is a problem of coordination between the participating bodies. Between Phases there is the problem of ensuring continuity. Phases may of course overlap one another or run in parallel. In a real case several departments from each organization might be involved at different Phases, and there would probably be many more Phases. The matrix would be very much larger.

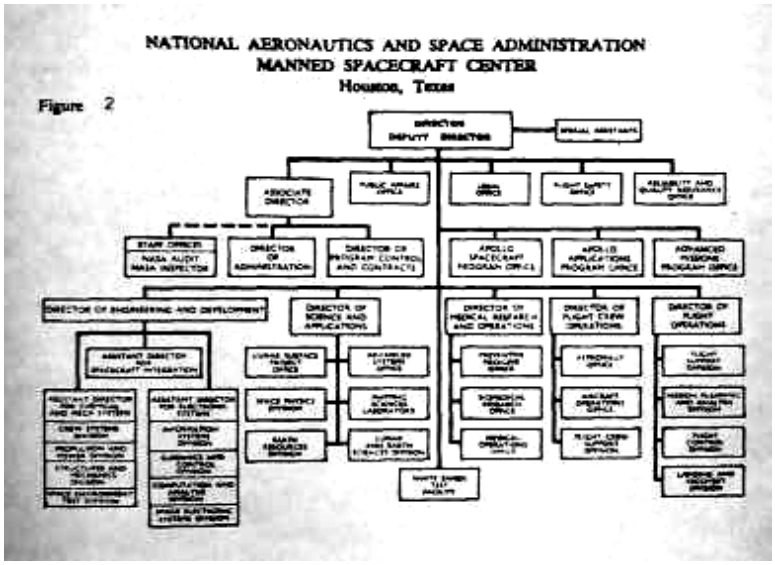
In a matrix organization each Phase has its own coordinating body which exists only for the duration of the Phase. The manager of the coordinating body has no formal line of authority over the participating functional units – but he does have deterministic authority over the units which do participate. Within the project as a whole, therefore, the activities of one participating body are coordinated by several such bodies – the one-man, one-boss approach is dropped – with the result that the span of control becomes very large.

"Issues like human relations trust, people understanding one another – which we used to think of as the frills of a business organization – now become absolutely central. When TRW Systems was running the Minuteman project, the heads of each of the resource pools and of the projecting group met together for an hour at eight o'clock every morning , every day of the week. Not because they were nice fellows or thought that human relations were a good thing, but because the informational complexity of running a matrix was so great that without that sort of meeting they couldn't manage at all." (Donald Schon, BBC Reith Lectures 1970. The Listener, 3 December 1970, p. 774)

Each organizational unit can therefore be seen as an area of tension between the forces of integration and fragmentation which cut through the system. Matrix management attempts to enhance both these tendencies.

Disintegration tendencies derive, in a development – environment - food problem example, from the "economists" responsibilities to propose mechanisms to improve the availability of funds to developing countries. Similarly "human rights NGOs" must focus on the social aspects and consequences of development. The "peace researchers" must attempt to isolate factors which hinder moves towards a reduction in international tensions and an increase in world stability. The "medical organization" must attempt to stress the importance of health in relation to development, pollution and malnutrition. The "pure science bodies" must stress the importance of new understanding of ecology, control of natural phenomena, etc. The "mass media bodies" must stress the importance of informing and educating the general public on their responsibilities. And so on.

Figure 2: NASA Organizational chart



Each such autarky – and it is as such that NASA views many of its sub-systems – is however related to the others. Certain unifying techniques are provided. These have been well illustrated by the contrast between the traditional formal organization (one-man-one-boss) structure as shown in Fig. 2 and the new diagrammatic representation as in Fig. 3. In the NASA case, the first is judged as no longer reflecting the reality of the matrix environment. The second is considered to be a closer approximation to the management dynamics. This is more than a "space age" portrayal of a structural-functional system. Just as the components of our own social system are held in juxtaposition by the forces of nature, so also does each "planet" in the matrix organization owe its position to more than just gravitational interaction with the "sun" or its "moon(s)". Each planet interacts with all components of the system to bring about a balance or stability which serves to maintain the system.

But is this solar system diagram relevant to the problems of interrelating IGOs, INGOs, Multinational corporations, Governments, National bodies, etc. There never has been any question that they could all be considered as linked within some overall structure with formal lines of authority such as in Fig. 2. Even in the case of limited groups of organizations the **formal lines** of authority are practically non-existent – this is one of the greatest "weaknesses" of international organization.

But suppose that instead of focusing on the formal lines of authority we look at the flows of information, resolutions and, lam, namely the information which regulates – directly or indirectly – activities within the world system. We could perhaps dram out some sort of rigid hierarchy with the United Nations at the top. Each line would then represent some flow of regulative information. But just as in the NASA case this could not be considered an adequate picture of the way such processes actually work. In particular, many organizations would not wish to think of themselves as beholden to others – there is a much greater impression of autonomy and freedom of action. In addition, we can not clearly see how information flows from the UN down to the national level – the lines in the "world organization chart" are not all known. In many cases the information flow lines can be only dotted in. We are dealing with a system of autarkies.

It is therefore much more useful to think of the organic relationship between all the organizational elements of the world system as based on the **solar system model**. Each area of interest functions quite independently within its own "planetary" orbit, together with its own sub-interests in their respective "lunar" orbits.

Each body influences every other body just as the gravitational influence of each planet influences every other planet. Stability is maintained because all bodies revolve about a common central point.

But in the case of the world system there is **no body** which sits at the central position as a meeting point or origin for coordinative information. For some a "world government" would take this central position. For others a governmental structure organized in terms of the concepts current in national government would be a disaster. This position can therefore be considered a future or potential development – an idea for which we do not yet have an adequate organizational form. This approach does not however prevent us from treating this common (or "virtual") point as the centre of a solar system model. (The "inhabitants" of a particular body do not have to think of it in these terms – just as it is possible for someone on the surface of the Earth to say both "the Sun rises" and "the Earth revolves around the Sun".)

Figure 3: Manned spacecraft center -- solar organizational system

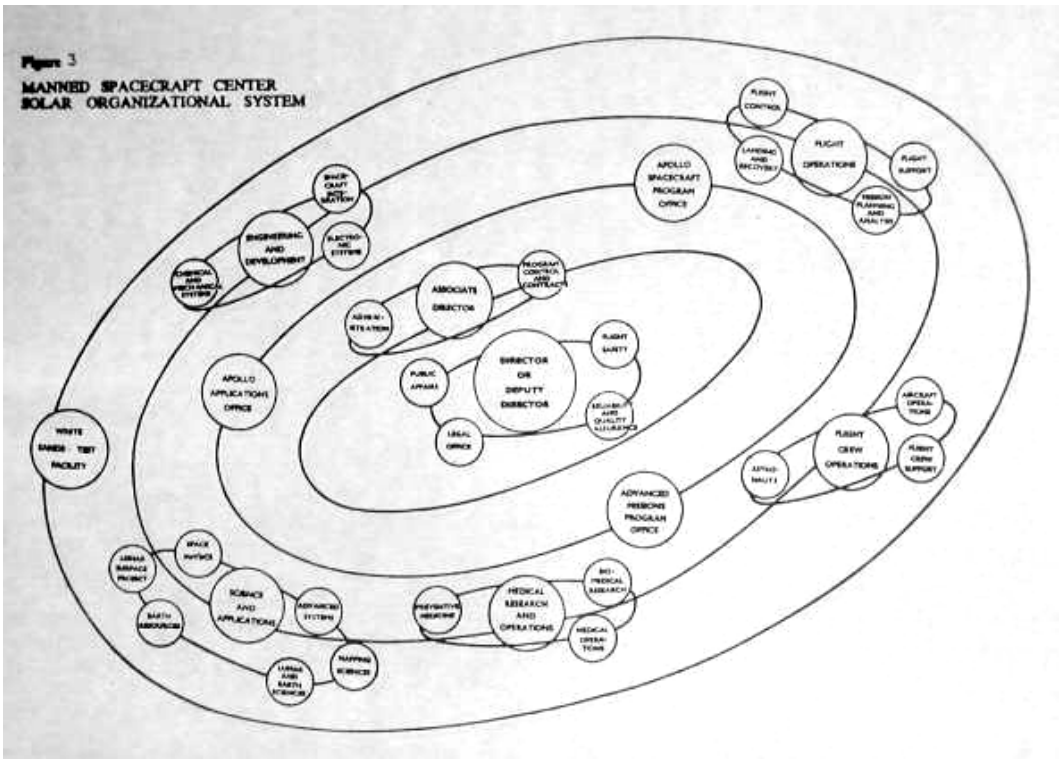
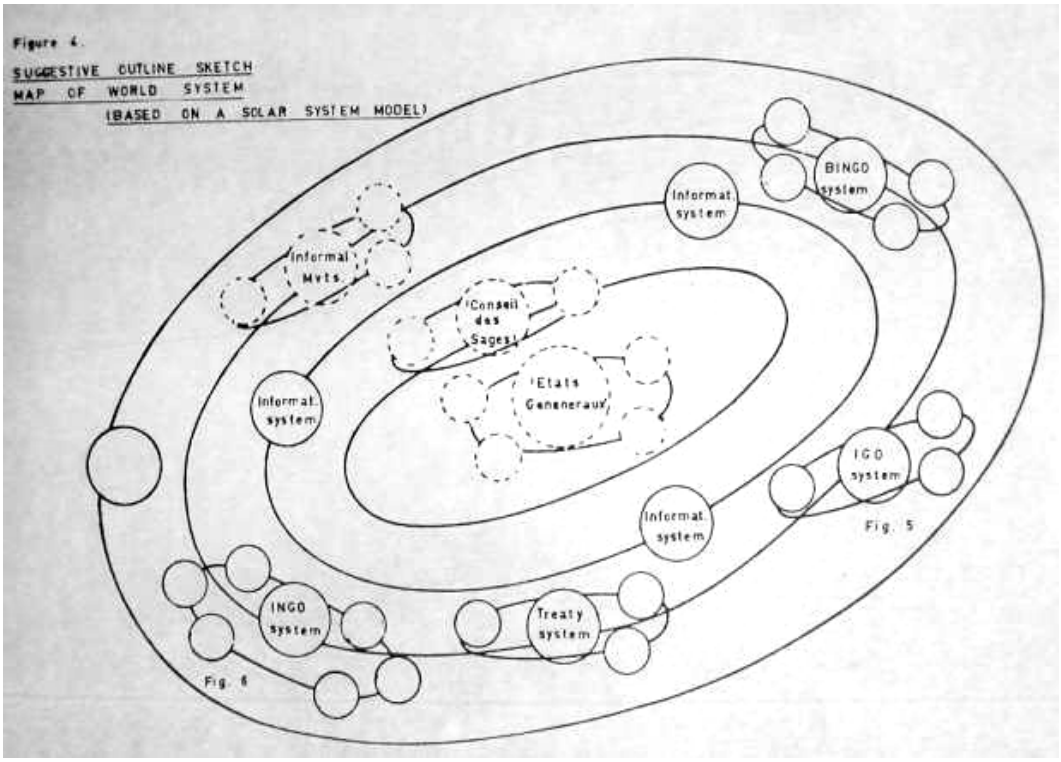


Figure 4: Suggestive outline sketch map of world system



As a first attempt at organizing thinking in these terms, governmental, business-industry, and non-profit-academic organizational forms have bean treated as three planetary systems in Fig. 4. This therefore stresses the importance of the equilibrium between the three basic typos of organization present in the social system.

To include more details, we can now treat each of these planets as a solar system in its own right. The first treated in this way is action with the "sun" or its "moon(s)". Each planet interacts with all components of the system to bring about a balance or stability which serves to maintain the system.

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But suppose that instead of focusing on the formal lines of authority we look at the flows of information, resolutions and law, namely the information which regulates – directly or indirectly – activities within the world system. We could perhaps draw out some sort of rigid hierarchy, with the United Nations at the top. Each line would then represent some flow of regulative information. But just as in the NASA case this could not be considered an adequate picture of the way such processes actually work. In particular, many organizations would not wish to think of themselves as beholden to others – there is a much greater impression of autonomy and freedom of action. In addition, we can not clearly see how information flows from the UN down to the national level – the lines in the "world organization chart" are not all known. In many cases the information flow lines can be only dotted in. We are dealing with a system of autarkies.

It is therefore much more useful to think of the organic relationship between all the organizational elements of the world system as based on the **solar system model**. Each area of interest functions quite independently within its own "planetary" orbit, together with its own sub-interests in their respective "lunar" orbits.

Each body influences every other body, just as the gravitational, influence of each planet influences every other planet. Stability is maintained because all bodies revolve about a common central point.

But in the case of the world system there is **no body** which sits at the central position as a meeting point or origin for coordinative information. For some a "world government" would take this central position. For others a governmental structure organized in terms of the concepts current in national government would be a disaster. This position can therefore be considered a future or potential development – an idea for which we do not yet have an adequate organizational form. This approach does not however prevent us from treating this common (or "virtual") point as the centre of a solar system model. (The "inhabitants" of a particular body do not have to think of it in these terms – just as it is possible for someone on the surface of the Earth to say both "the Sun rises" and "the Earth revolves around the Sun" .)

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To include more details, we can now treat each of these planets as a solar system in its own right. The first treated in this way is the governmental system shown in Fig. 5. This stresses the geographical territorial aspect of the coordination problem. Namely that the planets closer to the centre represent the most coordinative bodies (e.g. the United Nations). Further out, the smaller regional intergovernmental organizations are shown, then the national governments, then local governments.

The second system is that of the non-governmental, non-profit organizations. This is shown in Fig. 6. Again the non-existent "plenary conference" of all international nongovernmental bodies is shown at the centre – this is a potential or future development for which the adequate organizational form and function had not yet been evolved. In the nearest orbits around this move the various coordinating conferences of INGOs. These have different degrees of substantiality, depending upon whether there is an organization with a secretariat, a committee with no secretariat, or merely an infrequent meeting. Each of these bodies may of course have its own "moons" in the form of sub-committees or working parties. In this case, the larger the orbit, the more specialized and limited is the coordinative function in both geographical and subject area terms.

A similar attempt could be made to sketch out the business-industry complex in terms of a solar system model. Significant features mould be the multinational corporations, world trade centres, etc.

In each case we now have a way of looking at a maze of independent and semi-autonomous bodies. In each case the important point is that this approach shows how justified each body is in considering itself independent – but at the same time attention is drawn to the extent to which each body is related to others. It is a truism to say that every body is dependent upon everyone else in society, but we have enormous difficulty in balancing this integrative concept against our individually felt justification for a sense of independence and freedom. This is what a solar system model accomplished. It balances centrifugal and centripetal forces, justifying both.

In a rapidly changing society one must expect the features of the solar system model to evolve. Potential structures which have acted as focal points may take on an organizational form. Existing planets may cease to be considered useful and may disintegrate – "releasing" any dependent bodies (which retain their usefulness) to gravitate into some now orbit. A solar system model can "contain" conceptually and portray such social dynamism in a very adequate manner.

Figure 5: Suggestive outline sketch map of governmental system

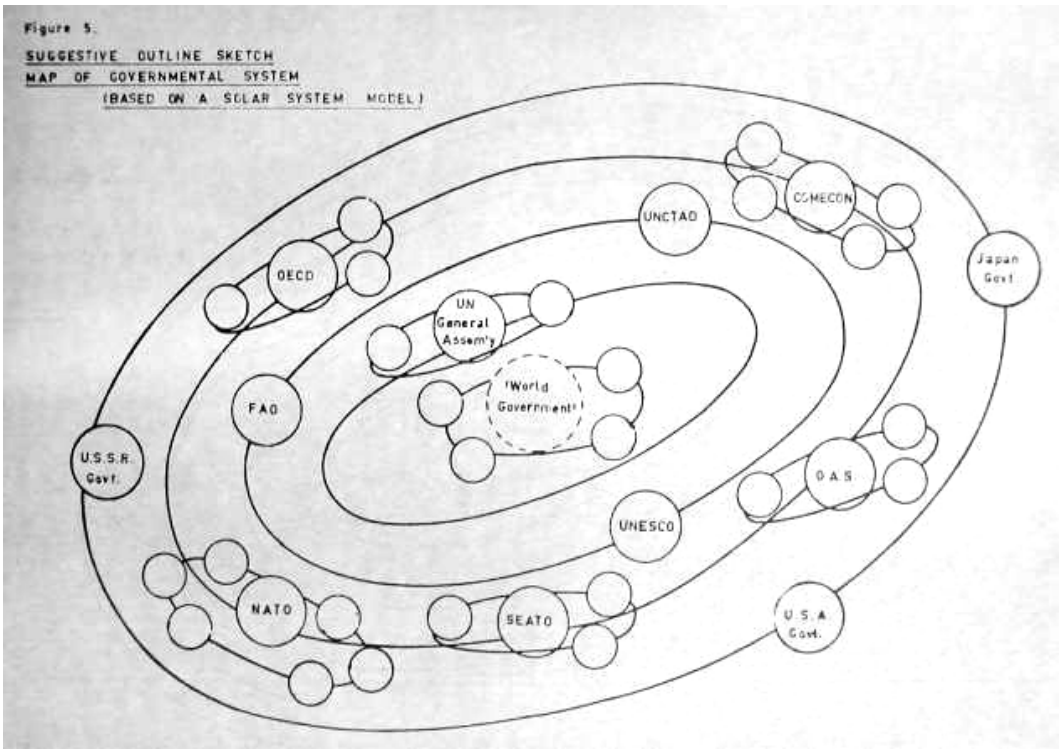
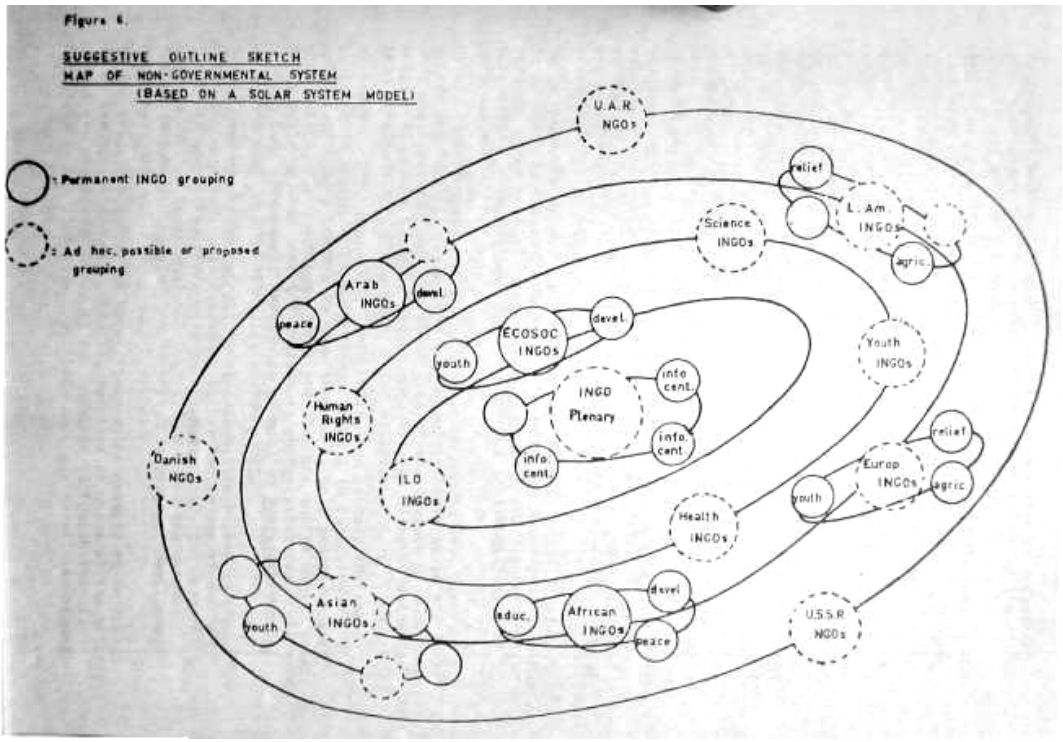


Figure 6: Suggestive outline sketch map of non-governmental system



Another important feature of the model is that it can suggest or draw attention to the possibility of new structures and thus speed up evolution of the social system to new forms. The solar system model can be interpreted in another way. If two bodies are placed close together on the model, then communication between them – the transfer of new concepts and information on now problems – will be relatively easy compared to the case where the bodies are far apart on the model. Increased distance means increased difficulty in communication.

This is a very important point because there is a tendency to treat the centre of any such social system as **the** "controller" of all "dependent" bodies. From this it is just one stop to suggesting that the centre should instruct all dependent bodies on the action they should take under any given set of circumstances.

This view completely loses sight of the fact that precisely because bodies on the periphery are **not** at the centre they have a **better** understanding of problems developing in **their** sector. And it is because such peripheral bodies feel that they should modify their own actions to respond to the problems they detect, before the centre has registered the importance of these problems (due to the communication lag) that the peripheral bodies feel justified in stressing the importance of "a high degree of autonomy. The centre just does not respond to crises quickly enough, on top of which it is usually so over-burdened – when attempting to control every- thing – that it is not sensitive to information on "minor" (from its own perspective) crises. These are therefore allowed to grow, until the centre can recognize the crisis as worthy of its attention with disastrous consequences to the peripheral bodies in the sector in question. A more organic approach sees the peripheral bodies handling all the problems to which they can respond effectively, only referring to more central bodies when the problem overflows their sector.

The centre-periphery or solar system model has, recently boon criticized by Donald Schon (BBC Reith Lectures, 1970. Published in "The Listener", November-December, 1970.) in a very interesting may which throws much light on the direction in which forms of organization can expect to develop. .

He is concerned with social changes and changes in institutions, as a consequence of the spreading of something, whether it be a new product, anew concept, a new technology, or a now type of institution. Social change becomes a by-product of the diffusion of information.

He argues that society's diffusion systems change over time and evolve and that this evolution is absolutely critical to how it is that society works and that management of the society depends on our ability to spread things in it, for novelty to arise at points and then to spread throughout the rest of society.

He takes as a classic model of the diffusion process the solar system with a centre and a periphery to it. In following his criticism it is important to note that he is only concerned with the analogy to the diffusion of "light" from the sun as centre point. He is not concerned with the analogy to the "gravitational" influence of **each** body (whether at the centre or not) on **every** other body, as is the case in the NASA solar system model.

In the case of international organizations, the centre in the following argument could represent either the international NGO (with its members or its public as the periphery), the United Nations system (with national organizations and the general public as the periphery). The "novelty" is peace or development- oriented thinking.

In the limited model, which he criticizes, the novelty to be spread is at the centre and the potential adapters or users of the novelty are at the periphery. This is the model of diffusion that is practised in the classroom. It rests on a series of assumptions: "dependent" bodies. From this it is just one step to suggesting that the centre should instruct all dependent bodies on the action they should take under any given set of circumstances.

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- that which is to be diffused or spread exists before the spreading begins
- the growth or spreading of new things takes place by the, movement of those things out from the centre to a periphery
- that which is spread is a product or a technique

The model has certain limits built into it:

- only a certain amount of energy or resources can be concentrated at the centre (i.e., the centre does not have the time and energy to do everything all the time)
- depending on the number of points on the periphery, the distance from the centre to the periphery, the effectiveness of the communication system between centre and periphery, the work that must be done by the centre to got the periphery to accept novelty may be considerably increased .
- the ability of the system to function is dependent on *how* well the feedback mechanism works. Namely the centre must respond to information from the periphery, modify its own behaviour in consequence and transmit new information back to the periphery.

A modification of the simple centre-periphery model has been developed in response to these limitations. Schon calls this the proliferation-of-centres model. In this case the original primary centre is replicated so that a new kind of centre is now created in the middle and a series of miniature centre-periphery models now operate on the periphery. He cites as, an example the Roman Army in which the primary centre in Rome trains and develops the capability of the colonies to function as secondary centres. . In this way the scope of operation is enormously increased. Whereas previously activity was bounded by the distance to the periphery and the resources of the centre, now new centres can be replicated at convenient distances from the periphery, pushing the limiting boundary further away from the original centre.

The replication is not perfect, however, and such social structures tend to fail when the periphery and secondary centres get out of control – the traditional conflict between the centre and the region or branch. But as Schon says:

"Perhaps the major source of failure in the proliferation- of-centres model has to do with the rigidity of central doctrine in relation to what's going on at the periphery. You have what looks, after the fact, like the stupidity of the Third International with respect to revolution according to the likes of each country, the stupidity of the Church, for example, in the delays they practised before allowing the liturgy to be Chinese in China, the stupidity of Coca-Cola which for a long time insisted on providing brown liquid for Africans when Africans didn't like brown liquid: they liked orange liquid. The need to modify the central message according to the requirements and the lights of the periphery poses great problems for the proliferation-of-centres system, because the whole structure of the system, its effectiveness, depends upon the simplicity and the uniformity of that message."

It is apparent that such systems were not organized to be sensitive to change. Schon notes however that they did adapt, and "learn", but only in spite of forces opposing such adaptation:

"The great proliferation-of-centres models of the late 19th and early 20th centuries turn out to have been learning systems in spite of themselves. That is to say, when change occurred which was responsive to the special conditions which obtained at the periphery, the centre always found it necessary to disengage, to react against that change, no matter how adaptive the change may have been. The overall pattern runs roughly this way. A primary centre emerges, it develops a diffusion system, it replicates itself in many secondary centres. The primary centre specialises in the creation and management of secondary centres and in the management of the overall network, and then the diffusion system fragments, the centre loses control, the network disintegrates, the secondary centres gain independence, or they decline, or they themselves assume the role of primary centre. The reasons for that decline or for that disintegration may be several. They may have to do with the limits of the infra-structure, the limits of the technology for the flow of information if the centre can't reach the outposts adequately. They may have to do with a constraint on the centre's ability to manage that complexity. They may have to do with the motivations of the agents of diffusion."

Schon contrasts this model which is currently used in most large organizational systems, whether governmental, business or non- profit, with a model which he describes as being pioneered by certain types of "business-system" corporations and the youth-peace- civil rights movement in the USA. In the latter case, for example, there is no clear centre – or rather a shifting centre, and no stable message. Theories arise spontaneously, modify themselves and bear only a family resemblance to one another. Nothing *is* radiating out from one centre to a periphery.

"It's a kind of amoeba, with very unclear boundaries, with no clear centre, with no clear structure, but with a very powerful, informal, interpersonal network that pulls the whole thing together. And not only does it survive, but it turns out to be darn near invulnerable, and its invulnerability in part depends on precisely those ways in which it is different from the centre-periphery model. There is no clear, stable centre, nothing to strike at."

Such social organization depends very heavily upon the existence of a highly effective communications system but also upon the "strange and wonderful networks of interpersonal "connection stretching over the entire nation which enable the pieces of this system to connect together."

The movement and the business-systems firm are therefore highly able to transform themselves without disruption and to modify their behaviour in response to the requirements of changing situations – despite the fact that they are apparently the most anti-thetical to one another, their methods of organization appear to be converging upon a common organizational structure:

"The classical models for the diffusion of innovation took a product or a technique as the unit to be diffused. The business systems firm and the youth movement are biased toward a functional system of thought and action as the unit to be diffused. The classical model is a centre-periphery one; the business-systems firm and the social movements associated with youth and Vietnam have a pattern of systems-transformation which is not centre-periphery. The classical model has a fixed centre and clearly defined leadership; the youth movement and the business-systems firm both tend to have shifting centres and ad hoc leadership as the requirement arises. The earlier system had relatively stable messages and a pattern of application of a central message; the latter ones have evolving messages. The earlier systems were limited in their scope by resources and energy at the. centre and by the capacity of the spokes; the latest systems are limited only by the qualities of the technological infrastructure of the time. The reason I dwell at such length upon this development is that I think it contains within it the seeds of what it means to be a learning system in our time."

Schon then uses these ideas about organizational structures as learning systems to look at **governmental structures,** namely the third basic type of organization. He first notes that one negative but not entirely inappropriate way of looking at government agencies is as a series of memorials to old problems. As a general rule agencies come into being around problems that arc perceived as critical problems and then go on living long after those problems have been solved or become insignificant.

Public organizations have proved singularly inept at responding to new situations – in functioning as a learning system. Any problem that can be named has a number of very interesting ideas for its solution. The difficulty has been that of carrying out any policy for social change to respond effectively in terms of such solutions. Schon scotches the idea that inability to respond has been due to the lack of commitment to the needed programmes in that one could equally wall argue that the failure of these policies and, our inability to implement them rests on a radically inadequate theory about the process of implementing any policy. The current theory of public learning is based on the following:

- that the issues and problems are given, that we know what they are, and although we may investigate them, the investigation does not usually take into account the process by which the issues came to be perceived as important in the first place
- that it is possible to make a radical distinction between the formation of a policy and its implementation
- that the process by which a policy comes to be implemented is a centre-periphery process with government disseminating policy from its centre point
- that policy, once developed, can remain steady over a long period of time which permits aspects of the policy to be bandied by compartmentalized units which correspond to the departments and agencies of government, namely one-agency-one-policy

Against this theory he raises three questions:

- how do ideas come into good currency, how do issues come to be powerful for action, how do we decide what needs to be worked on?
- how can government change in response to a new problem?
- how can government go about developing and carrying out a policied solution to a new problem when it is clear that the problem has to be worked on but it is not clear what the solution is, and when no solution is going to be adequate for mare than a short time?

As an example ho cites the problem of the cities and notes that no governmental agency in the USA is not involved in this problem. Namely the problem fragments the existing pattern of agencies with each agency tackling that aspect of the problem relevant to its own concerns. The same is true of development and intergovernmental agencies. Another example is the current problem of the environment. The current solutions to this difficulty are:

- to form inter-agency committees, which according to Schon have never been known to work and quickly fall victim to the baronial instincts of the various agencies so coordinated
- to reorganize and consolidate the system of agencies, which again falls victim to the temptation for each modified agency to continue to function in the old way but under new headings, each with the support of its traditional constituency
- to create a new agency, but if the number of new problems found to be serious each year is increasing this will lead to a proliferation of agencies, particularly if there is only an ineffective mechanism for dissolving them
- to create a series of pools of competence which are relevant to the implementation of policy in abroad sense. These would be drawn upon on a temporary basis by project organizations such that people and resources move effectively backwards and forwards between their pools of competence and project organizations as they are created and dissolved for the life-cycle of a problem. This is in effect a description of one variety of the matrix organization described earlier.

It has the advantage that it permits loyalty to and identity with government at a very high level of aggregation or generality, i.e., not to a department but possibly to the national government per se. The movement of people in and out of specific projects helps to avoid over-identification with a given organization with all its consequences for the creation of organizational memorials to dead problems. This is a problem for the UN to consider.

The **information system** which Schon points out would be necessary to help identify the new problems and dram together the appropriate team makes this type of social organization resemble the potential association described earlier. There is one important difference however. In this case the information system is still controlled from the centre. It is the centre which identifies which problems are critical and then

decides which competence pools should be drawn upon. In the case of the potential association, no such centre exists.

Schon notes that the centre can disseminate policy in as number of ways:

- the policy may be promulgated
- the policy may take the form of a law that is enforced
- resources may be made available which encourage the actual implementation by agencies wishing to obtain funds
- government may formulate policy and invite participation – funding the regions or agencies which do and depriving those that do not. Schon noted that this is the principal method used in the USA.

The weakness of the centre-periphery model as used by government and the United Nations is illustrated by Schon's example of a US Federal Government programme to ensure the dissemination of the latest medical expertise to practising physicians in 55 regions, are:

- the actual goals of the regional agencies are in fact different from those of the central agency and they therefore used the allocated funds in their own ways with some degree of conscious or unconscious subterfuge on the part of the regional agencies
- it was discovered that the offsets of large-scale medical insurance might not be to assure care but to increase medical cost
- no region was found to be like any other region and it was difficult to modify the programme administration to handle each case on its own terms
- each region had to be regarded as open-ended, namely there was no model of medical care that could be imposed and could last for any region.

There could therefore be no central policy.

"All one could say was that there were certain themes of policy – themes, for example, like the shortage of medical manpower. ***The generation of central policy had to be inductively derived from the regions, and regions became developers of variations upon policy themes.*** *The centre couldn't therefore go out and evaluate what the regions were doing according to any control model. They could only press the regions to develop evaluation systems of their own which were appropriate to their own policies.* ***The centre could pull the regions together in a kind of learning network so that they could learn from one another*** *in their own efforts to carry out transformations of the system of medical care.*

"Now the regional medical programme – not as it was conceived but as it developed – has begun to be a learning system for government in the mode of implementing policy. It isn't in the centre-periphery model but looks more like the network model of the business-systems firm or the student movement. It stands in contra – distinction to the idea of government as an experimenter for the nation, of government as a trainer of the nation. It fits the notion of loss of the stable state. It fits the notion of change as the foreground condition against which governmental action must work. Where the public problem is new, there is no established policy solution or institution corresponding to it. The centre's role is to announce themes of policy to the periphery, to initiate facilitate and support learning efforts: the movement is then as much from periphery to periphery, from point to point on the periphery, as it is from centre to periphery. It is an inductive rather than a deductive process, and it is a process comparable, in its overall character, to the learning systems which we have seen in the evolution of business firms and of different systems for technological innovation."

From this me see thy need for the additional requirement that the regions be able to adapt central policy themes. Schon does not go so far as to describe a system which would

- assist regions to detect problems to which they could respond by initiating policy which might later be generalized by the centre
- assist bodies not previously within the system to assign problems to it and to facilitate any joint programme formulation and implementation

This is an even looser concept which would permit many more organizations to be interrelated in society's response to problems whilst making maximum use of the fact that unknown and unrecognized bodies may in fact be more able to detect problems before they develop to unnecessarily critical proportions. It is this concept of an organization which is foreshadowed in the potential association which permits the creation of transient organizations (whether matrix organizations or not.)

It is this sort of approach which can be used by international nongovernmental organizations to relate themselves and their programme within a loose network of INGO policies." INGOs must be able to collaborate effectively with UN and UNDR programmes when they take on a matrix form as they are bound to do in order to master the multidisciplinary and multi-agency problems. Hopefully the United Notions will develop its own approach to permit its agencies to relate through such an information system to the activities and problems of INGOs.

Whilst the United Nations should expect to be able to formulate central policy themes, the INGOs (as secondary centres) should be able to develop detailed policies and introduce variations for their own sectors, just as the governments develop policy for their own countries. Once the United Nations or any other such centre (e.g., the OECD) can respond to peripherally developed policy variations, it will have ceased to be a rigid promulgator of necessarily out-of-date policy and will have adapted to the role of catalyzing a "world learning system".

Schon summarizes his views as follows:

"The map of organizations or agencies that make up the society is, as it were, a sort of clear overlay against a page underneath it, which represents the reality of society. And the overlay is always out of phase in relation to what's underneath: ***at any given time there is always a mismatch between the organizational map and the reality of problems that people think are worth solving...***

"There's basically no social problem such that one can identify and control within a single system all the elements required in order to attack the problem. The result is that ***one is thrown back on the knitting together of elements in networks***

which are not controlled and where the network functions and network roles become critical.... That means that the inside of the system is a temporary system which is fluid and able to shift. Change becomes the foreground condition rather than the background condition... functional systems must be able to provide security for their members at the level of functional systems and ***not at the level of specific organizations within them****....*

"We have young radicals who would like to create community or organizations which are separate economic, political and social units, and we have young people who would like to go off into the woods and form communes. All these efforts towards decentralization are reactions against the repressive and dehumanizing character of central government and of central institutions. But this response is not an adequate one: the same technological changes that produced the loss of the stable state connect every piece of society to every other and ***no*** *separate enclaves can survive. If decentralization is a response, it must be connected decentralization."*

NGOs in particular should not be deterred from looking at the current ideas emerging from business management research for clues to new methods of organizing their own activities. The fact that the business systems, the youth-peace-civil rights, movement, and possibly even the Mafia, are all converging on the same flexible structure in response to similar problems clearly illustrates that it is the operating advantages of those new structures which should be considered and not the objectives for which they are used. Unfortunately many NGOs tend to imitate the UN's organizational structure, with its built-in inter-Agency coordination problems, rather than experiment with flexible evolving structures adapted to the new understanding of problem complexity and the need for organizational networks.

The solution to the problem of inter-organizational relationships lies not in a monolithic centralized organization of coordination but in an adequate world-wide information system in which all can participate freely to determine with which groups and problems they should temporarily concern themselves – namely a network of social activity coordinated by **information** and not by **organization**.

Annex III: Sketch of a World Action-Potential Information System

This is a brief indication of the type of low-cost information system which fulfils many of the requirements not covered by the UN Capacity Study and similar specialized in-house systems. It acts at a higher action potential – focussed as close as possible to the present, restricted to information on active or potentially active bodies, and is more highly integrated. Its value to specialized systems is that it can be used as a comprehensive picture from which specialized details can be filtered off.

Criteria

The system is based on the assumption that in order to formulate a global or comprehensive strategy requiring or affecting a variety of organizations, it is necessary to:

(a) maintain an updated picture of who is doing what, where, and when – for the present and the future. Since neither problems nor the future are respecters of jurisdictional boundaries or imposed categories, the system must:

(b) overcome resistance to communication and loss of coverage caused by:

a. established administrative, jurisdictional, political boundaries;

b. geographical separation;

c. conceptual separation arising from divergent specialized disciplines;

d. different evaluations of effectiveness (often arising from past limitations on information received);

e. class and status separation;

f. differences in available resources to collect and process information (which leads to different impressions of the necessity for a greater degree of transparency of the world system).

Since a great deal of funds and intellectual and emotional capital is invested in the current organizational and category structure, the system must:

(c) avoid the necessity for organizational change or threat to traditional bonds. This also applies to existing or planned information systems, such as that advocated in the UN Capacity Study which is constrained by the years of effort put into the UN, ILO, FAO, and UNESCO library systems. The system must therefore act as a linking process:

(d) into which information may be fed from specialized systems with their own security constraints;

(e) from which information may be drawn according to specialized filtering profiles. Since the main problem today is to get public support for, and involvement in, projects falling

outside an individuals normal sphere of interest, the system must:

(f) be directly useful to the individual within his own sphere of interest, although providing him with the facility to increase his awareness of more distant or inclusive contexts – to the limits of the world system. Following from this is the need to ensure a minimum operational and set up cost for the system, namely that the system must:

(g) be self-maintaining in that it generates resources which are used at a point at which they can be seen to be useful by the fund suppliers. To ensure maximum realization of its potential, it must be possible for the system to:

(h) juxtapose information concerning groups with related interests in such a way that each group is made aware of the potential value for activity of contacting the other. The decision to communicate directly being of course entirely dependent on each body. (The function of the system is to bypass the encrustation of social mechanisms which render society and the world system opaque to perception of useful contacts.)

Since world problems are of such a nature and complexity, and growing at such a rate, that it is impossible to depend upon the "resolving power" of one body or group of bodies to detect them at a point in time before they are close to becoming critical, the system could:

(i) be conceived of, described, and used as a problem detection mechanism, such that in their very diversity and tremendous distribution through function and geographical space, each body is seen to have the potential ability to report back on the area of its concern. Problem information (or negative feedback) therefore enters the communication system much earlier in time than would be possible if, as now, it were necessary to depend upon particular organizations or programmes set up in the past to detect the problems considered significant in the past, and which cannot (by definition) be sufficiently flexible to detect new problems before they have achieved considerable magnitude.

Finally, such a system should not be described solely as a device or tool. It could also:

(j) be conceived of, and described as a symbol (or physical working model) of what has always tended to be an abstract and relatively meaningless concept, namely "world society" or the "world community".

The elaboration of such a network linking all organizations within the world system in terms of their actual day-to-day pattern of contacts would decrease the current tendency to treat organizations as relatively isolated entities. The existence of such a model, open for "exploration", could have social, psychological and educational consequences of considerable value to the stability of the world system.

Description

The following system is one of many which could fulfil the above criteria.

1. Suppose that every organization (and even active individuals) was given the facility to register its address, interests, current and planned programmes, etc. into a computer file. The act of registration could be accomplished through the post by filling out a standard form.

2. Clearly this project would prove impractical if the attempt was made to do this at. an international **central** office. The amount of information would be too great, therefore making the processing costly, and the project would run foul of, criteria (b).

3. Suppose however that the project was **catalyzed** (not organized) by the United Nations and other such bodies, and the attempt was made to encourage the creation of city, province or national level computer files around the world. Clearly in some cases only a national or even sub-continental file would be possible. In cities, even local files would be possible. This would reflect the amount of information and the resources available.

4. Now suppose that in addition to indicating regularly changes of address or interests, each body files **queries** concerning other bodies actually or potentially active in its field, and that the appropriate addresses were furnished in response.

5. By catalyzing the creation of collecting points in this way, grass-roots initiative will ensure that the coverage for collection/query response is adequate for a viable service.

6. But now suppose the computer files of the different collecting points are not kept isolated from one another, but that copies of the (magnetic tape) files are **moved** from one collecting point to another. Clearly contacts and queries collected at one point are now exposed to contacts and queries from other points. This process can take place between local points (within the same province), sub-national points, national points (within the same continent); or international points.

7. The circulation of information can be made very rapid. A **courier file** can be circulated between a group of **local** points in the same province (or city) during the course of a week, month, or longer. Information is copied onto and off each local file. At one point the file interacts with an inter-province courier file moving from **province to province** within a week, month, or longer. Information is transferred both ways. Similarly the inter-province file – in effect a national file – could interact with an international courier file on the same principle.

8. Clearly by this means organizations active in one geographical area can find out about, or be made aware of, bodies with related interests in other geographical areas. A refinement would be to encourage the creation of specialized files by subject or subject groups.

9. If collecting points are created for specialized topics, these may also interact with either inter-speciality courier files or also the inter-geographical area files – depending on the level at which the information was collected.

10. The system is very flexible. Clearly a politically sensitive group of organizations like the UN Agencies could circulate a file around the UN system and then have it interact with the

international courier file. Security, subject matter and evaluative filters could govern the interaction.

11. The key feature of the system however is that it does not require more than a bare minimum of overall organization - and even this could prove unnecessary. Neither the courier file movement between collecting points, nor the content of the file, implies any form of "recognition" (see criteria b).

12. Collecting points are created wherever (in terms of subject, jurisdiction, or geographical level) there is sufficient common interest – i.e. motivation plus resources. If the problems of Criteria b arise, are recognized, and it is desired to overcome theme all the administrative work may be delegated entirely to some party judged to be impartial and uninvolved – a commercial computer service bureau$_s$ a university, a government agency, a user cooperative, or non-profit institute. The whole procedure at a given collecting point might be arranged under contract.

13. Hopefully the selection criteria, if any, of each collecting point could be clearly stated to facilitate the design of search strategies. But if information or queries are not accepted at one point, they could be inserted into the system via another.

14. The costs involved at each collecting point are (a) conversion of information and queries to machine readable form, (b) processing and output relevant to immediate user contacts, and (c) transport costs of the magnetic tape courier file to the next collecting point. The funds are expended locally in a manner which can be immediately justified and yet this results in making available current information from very distant points within the world system.

15. These costs can be met by (a) a charge imposed on the user bodies for filing their description and interests plus address, (b) a charge imposed on bodies filing queries and/or receiving output replies, (c) a charge imposed on bodies using the system for bulk mailing, (d) subsidies from directly interested bodies (e.g. local, state or national government agencies, foundations, etc.).

16. Charges (a)$_3$ (b) and (c) under point 15 could also be met or reduced by use of subsidies. These could be made selective and dependent upon compatibility of the interest profile of the subsidizer and the user query profiles.

17. The financing of the system does not need to be comprehensively organized.

18. The system lends itself to some very interesting financing possibilities in the case of bulk mailing (15c). Clearly the risk here is that registration on the file will lead to floods of literature to particular addresses or profiles.

19. This nuisance can be minimized with a flexible charge procedure. The addressed body specifies the type of information it wishes to receive. It may be given the option of specifying the "barrier" it wishes to impose against information outside this range. The "height" of this barrier could be governed by the amount of the original filing charge paid to the collecting point.

20. Similarly the querying/mailing body could specify what "height" of barrier it wished to overcome and pay accordingly for this privilege. The extra revenue derived from this could then be treated as "free processing units" and transferred to the "accounts" of the bodies which have been "bothered" by this nuisance information – this increases their ability to make use of the system.

21. A problem would arise at the interface between different level courier files as to how much information should be transferred up or down. For some applications, it would clearly be an advantage to have the accumulation of all the material from all levels, in all parts of the world system» This could however be arranged very flexibly.

22. The processing cost would of course be limited if only modifications and queries were moved around by the courier files.

23. A system of this type can be studied in advance with the use of simulation techniques in order to eliminate design errors.

Advantages

1. The most important advantages are implicit in the criteria.

2. No existing bodies have information processing commitments which could not mesh with this type of system. In the next few years a multitude of uni-problem, specialized information systems will be created (see SATCOM Report). Some form of more general decentralized, rapid-response system is required to supply a context and link mechanism between such systems.

3. Similar "profile" systems operate through single processing centres for awareness listings of new published material. Such systems are costly to maintain and costly to use. They cannot cover more than a limited range of subjects. Because of the focus on published material and documents, they are always six months to years out of date.

4. For individual organizations the main advantage is that only needs to be concerned with getting its programme information into the central file and extracting whatever information is available on other bodies active . in the field. It does not have to consider whether it recognizes the organization interested in that information or providing the information extracted.

5. This approach could avoid some inter-departmental jurisdictional problems in large organizations. Since the department filing the information (or registering interest in a particular category of information which may at some stage appear on the file) is not in contact with any particular outside organization for any purpose, no grounds for friction with other departments are involved. Once the information is obtained, normal channels can be used to actually contact the outside body. (The technique is in effect ideal for circulation of **internal** information across jurisdictional boundaries. Each department is sent via the computer any information filed by a department in another part of the organization, if it fulfils the profile criteria. The only link, which results in the transfer, is the common interest in a subject registered via the computer.) By ensuring

that the computer automatically redirects or addresses information on a particular subject to the persons who have registered an interest in that subject within the agency, the effectiveness of retransmission is considerably increased. The fact that profiles can be updated very rapidly makes this type of system an ideal means for an organization to respond rapidly to cross-jurisdictional problems.

6. This approach avoids the communication blockages which arise because a particular organization is assumed to have programmes in a given area only. Some sub-sections of ah organization may in fact have programmes which touch on an entirely different sector (e.g. FAO programmes touching on health (WHO) or education (UNESCO), etc.) Rigid classification of FAO would bodies interested in health from becoming associated with FAO programmes in this area. This is particularly important in the case of interdisciplinary environmental problems or broad areas of interest such as development which may cover many specialized programmes.

7. Processing of files may be undertaken using very different types of equipment. If a file is transferred to disk or drum, direct access processing can be used. This would permit consultation via remote terminals in offices scattered through an agency – a technique which will soon be widespread in the computer-sophisticated countries. A great variety of research can be envisaged.

8. Perhaps the most important advantage is that effective links are encouraged vertically between different levels of the world system, leading to geographical and subject area coordination, reinforced by horizontal links between "opposite numbers in other countries or disciplines.

9. Due to the increased sensitivity of each organization to other activities in related fields of interest – whether obtained by active querying, or by being informed through the system – the coordination problem will be reduced because of increased "self-coordination". It will be less necessary to impose coordination.

10. By getting down to the grass roots of the world system, an information *system* of this type produces a genuine response to the type of complaint cited by the Capacity Study, namely:

"For development assistance to have a real impact, it must start at the roots; development from the top down, although it may appear as the most expedient way to show progress in the short run, is not only deceiving but uneconomic as well as unrealistic." (I, p. 66)