

THE BOUNDARY

An Overview of its Current Theoretical Status

Raimondo Strassoldo e Renzo Gubert*

STATEMENT I

The organization of the present conference is founded on two basic attitudes:

- a systems approach
- a commitment to peace

The Conference has a theoretical, a methodological and an ethical rationale:

- to focus attention on the concept of boundary
- to effect an experiment of inter-disciplinarity
- to explore the peace potential of border regions

DISCUSSION

1.1. Systems and Boundaries

Systems theorists are paying growing attention to the concept of boundary. Rarely mentioned in the early documents of this school of thought, it has recently gained an important position in its conceptual structure roughly corresponding to that of *interface* in more orthodox cybernetics (1). An entity can be identified only when its contours can be *defined* (lat. *Finis* = boundary); "entitiation" is the term coined for this process (2). A system exists as long as it is able to maintain its boundaries (3). System, boundary and environment are three basic elements of the systems framework. To our knowledge, however, the boundary has never been taken as a *central* topic for a wide discussion, as a strategic category for a review of the systems framework, although it has received some attention in one of the early expressions of the approach: see R.R. Grinker (ed.) *Toward a unified theory of human behavior*, Basic Books, New York, 1956. This is the goal of this conference on the theoretical level.

* Raimondo Strassoldo è stato assistente di sociologia urbana e rurale presso l'Istituto Superiore di Scienze Sociali di Trento e collaboratore, poi direttore dell'Istituto di Sociologia Internazionale di Gorizia. Ha pubblicato *La suburbanizzazione della collina Veneta e Friulana* (1971) e *Sviluppo regionale e difesa nazionale* (1972).

Raimondo Strassoldo was assistant lecturer in Urban and Rural Sociology at the "Istituto Superiore di Scienze Sociali di Trento" and research associate and, later, director of the "Istituto di Sociologia Internazionale di Gorizia". He has published *La Suburbanizzazione della Collina Veneta e Friulana* (The Suburbanization of the Venetian-Friulian Hills), 1971 and *Sviluppo regionale e difesa nazionale* (Regional Development and National Defense), 1972.

Renzo Gubert è stato borsista dell'Università Cattolica di Milano e assistente all'Istituto Superiore di Scienze Sociali di Trento. Collaboratore dell'Istituto di Sociologia Internazionale di Gorizia, ha pubblicato il volume *La situazione confinaria* (1972).

Renzo Gubert has been a Research Fellow at the Catholic University of Milan and an Assistant Lecturer at the "Istituto Superiore di Scienze Sociali di Trento". He is also a collaborator of the "Istituto di Sociologia Internazionale di Gorizia" and has published *La Situazione Confinaria* (The Border Situation), 1972.

1.2. Boundaries have many disciplinary dimensions

The Institute organizing this conference is specialized in International Sociology, or the Sociology of international relations. But we do not believe that a relevant Sociology of the Borders can be construed without the contribution of other disciplines. Disciplinary specialization is a practical, methodological necessity; but whenever we are confronted with real problems, and want to contribute to their solution, interdisciplinarity (4) is unavoidable (5). General Systems Theory is being developed precisely to facilitate both interdisciplinary collaboration (evidencing those concepts and postulates that can be transferred from a discipline to the other, breaking down disciplinary jargons, etc.) and effective assault on real, complex problems (6). Such is the problem of international boundaries, as we find here in Gorizia and in many other places. There are geographical, technological, cultural, economic, legal, military and many other aspects to it. Historically, border problems have been studied almost exclusively by geographers and lawyers - not surprisingly, as geography and law have been the first social sciences. But sociology has until now paid only very scant attention to this problem (7); and the construction of a Sociology of Borders must, first of all, find a way of integrating the existing knowledge on the subject, translating it from other disciplines.

1.3. International and other boundaries

We are concerned here mainly with *international* boundaries. But the General Systems Theory can help us not only in the "systematization" of what special disciplines have to say on the subject. More important, it can give us a better understanding of international boundaries showing that they are only a *species of a genus*. There is a wide spectrum of systems, from sub-atomic particles to molecules, to cells, to organs, to organisms to groups; and human groups go from the family to several kinds of local communities, associations, all the way to the States and to world-wide organizations. It is the basic assumption of General Systems Theory that there is some isomorphism among all systems, and that some concepts and principles are transferable through most of the spectrum. Thus knowledge pertaining to the boundaries of "lower" systems can be used to give insights into the functions, structures and processes concerning the boundaries of more complex systems. It is a basic tenet not only of the General Systems Theory, but also of Social Sciences in general that the State, the Nation-State whose boundaries concern us here, is only a (particularly successful) special type of system.

1.4. Boundaries: Conflict and Peace

We shall suggest below some *theoretical* arguments for the development of a Sociology of the Borders, or Border Sociology, particularly concerned with the sociological phenomena of national frontiers.

Here we want only to emphasize a simple *moral* reason: they are the boundaries of the most "important" social system, the Nation State. They have the most macroscopic influence on people. Historically, they are linked with conflict and have caused much suffering to people in general and to the dwellers of border areas in particular; most wars in the past have been fought on the frontiers. People have been slaughtered by the millions in the "defense" of "their" frontiers. The call for the abolition of national frontiers is recurrent in the slogans of pacifists. *National boundaries are a central aspect of war-and peace research*. We must regret though that this has not been widely acknowledged; standard literature on "polemology" and on conflict and peace research shows little interest in

frontier issues. It is widely held that what happens at the borders is either unimportant or determined by the Center; that the border is but an "epiphenomenon" of something more basic; that international cooperation and peace can proceed only from the national Centres; that the striving of the populations of border areas for cross-border understanding and cooperation a mere "neighbouring" which has little relevance on the great issues of war and peace among nations.

1.5. State- and System-approach to the problem of boundaries

There are two weaknesses in this attitude:

- it entertains a State-centered view of society
- it considers only the "horizontal" boundaries of the State

The two weaknesses can be seen as issuing from the same mental habit of conceiving the world as geopolitical maps present it - a collection of Nation States sharply distinguished by different and homogeneous hues. Those who are still under the spell of XIX century statolary of the geopoliticians tend to forget that the Nation-States are only a (particularly stable) compound of uncounted other systems, "horizontal" and "vertical" (*); that the geographic boundary line is only one of the several *functional* boundaries of the State; that the Modern States emerged only a few centuries ago and there is no reason to believe they should last many more generations; that making them the central category of our analysis leads to the perpetuation of their central place in our lives; that we should therefore explore with bolder imagination the potentialities of other forms of political organization, and place them at the center of our thought and action. This might sound like a highly idealistic attitude: to change concepts is to change reality.

But if we think that social systems are essentially systems of roles, of behaviors, of expectations, of goals and values, then there seems to be some theoretical justification in the idealistic view: change the ideas of people (the "pictures in their heads") (8) if you want to change the world. The problem is a *practical* one: *how* can we achieve this change in ideas? Here simple idealism is of no avail. The idealism of pacifists, calling for the end of barriers and boundaries among the peoples of the earth, is not going to lower them an inch if such emotional "ethics of persuasion" is not supported by a sound, rational "ethics of responsibility"; if such pacifist values are not supported by a sound knowledge of reality (9).

There are, of course, many paths to peace; perhaps there is no royal road; but surely the knowledge of the extremely complex social and political reality is what differentiates peace research from peace action.

The systems approach to social and political reality, with its high capacity for handling complex problems, with its scorn for State-centered doctrines, with its picture of the world as an inextricably intertwined complex of billions of systems interacting, pulsating, evolving and decaying, can give us a new framework for our analysis of frontiers.

1.6. Focus on the Region

A new concept has been emerging lately: the Region. There are many reasons for this. Students of international relations have detected an "international regionalism", the tendency of States in some areas to cooperate among themselves more than with States outside them (10). The needs of a participatory democracy have led to a territorial decentralization of power. Planners have found in the "Region" their basic frame of

(*) For the distinction, see § 2.2

ference (11).

The Region, then, speaks of democratic involvement in societal decision making (participation) and in efficient societal control over the allocation of resources (planning). The Nation-State smells of rules, armies, history, blood; the Region recalls geography and rational administration.

7. Regionalism and Federalism in Europe

Western Europe is, in certain regards, the more mature of the world regions. Here national frontiers have become extremely permeable, as some States try to integrate in regional union. They might disappear completely; but if Europe develops as a new, improved model of the old war-machine, a giant Superstate motivated only by security and power, then not much will be gained for peace (12). Lacking that motivation, there is a distinct danger that national feelings will hinder the development of Europe. Many observers have emphasized the relationship between regionalism at the supranational level and regionalism at the sub-national level; only a total reshuffling of state powers and their re-distribution to higher and lower levels of decision-making will make possible a democratic, yet efficient Europe (13). Thus Eurocrats in Bruxelles and regionalists all over Europe have linked up across State boundaries (14).

8. The Cooperation of European Frontier Regions

In this process the most promising points of leverage seem to lie in border areas. European organizations are paying keen and increasing attention to the so-called Frontier Regions between Belgium, Holland, Luxembourg, Germany, France and Switzerland. These regions in the core area of western Europe are the most active supporters of European integration because they have suffered most from old hostilities and divisions and they have most to gain from unity. They were at the periphery of their national States, constrained by the defense needs and often dragged by wars; but they are going to become the central places of the new Europe. Presently the persistence of national frontiers is widely resented here as an obstacle to commercial, industrial, urban development. This has activated a swarming of cooperative initiatives, spearheaded by chambers of commerce, local administrations, planning bodies. Several European organizations have been involved in studying and supporting this process (15).

9. Border Regions: from locus of conflict to locus of cooperation

Essentially, *what we see in this case is the transformation of border regions from locus of division, hostility, disputes and wars to locus of cooperation and integration*; this process can be seen as "nothing but" the consequence of a wider, more important process of continental (supra-national) integration. But such linear reductionist thinking tends to forget the force of feedback processes; the initiatives, the doctrines, the examples emerging from European "Central" frontier regions can influence the situation elsewhere. In fact, when the Council of Europe promotes symposia for the study of European Frontier Regions, the main drive comes from the representatives of Central Frontier Regions; but also the Peripheral Regions come to present their experiences and learn from the others'. This contributes to the development of the consciousness of

STATEMENT II

There are some trends in present society which give to "openness" the status of a relevant social value. We frown on secrecy, separatism, segregation, reserve, aloofness, exclusion, closure. We want "open" institutions, clubs, universities, classes, governmental agencies, mental hospitals, discussion groups, national economies, international organizations.

But openness can be compatible with the persistence of the system only if "closure" is substituted by more sophisticated mechanisms of "boundary maintenance".

The opening of social boundaries is a relevant social trend because it is connected with:

- freedom and democracy
- affluence
- mobility
- development

The more we emphasize "openness" as a social value, the more important becomes the problem of identification and analysis of the "boundary" processes and mechanisms in social systems.

DISCUSSION

2.1. Boundaries, communications and systems

The "systemic" approach starts from the premise that human societies are, with few exceptions, systems which are *open* to each other (16). Societal boundaries have the function of controlling, filtering and processing the inputs, not simply of rejecting them. The more complex a system the higher should be its capacity for adaptation to and control of the environment; the "law of requisite variety" implies that the higher, more complex and powerful a system is, the more elaborated and sensitive are its boundaries, i.e. its capacity to react appropriately to environmental stimuli (17).

The phenomenal increase in the means of communication (transport of things and persons, flow of information) has resulted in a corresponding increase in the systemic level of human societies. A system survives by patterned exchanges of energy and information (18).

2.2. Vertical and horizontal boundaries

The increased capacity for communication, induced by technology, increases the density of social interactions and leads to the evolution of new social structures, groups, organizations, systems.

As long as human communication was sense-based, it was land and distance-bound; a basic feature of social groups was their spatial, territorial dimension. The "technocratic" (19) era and the "mobiletic" revolution (20) have facilitated the emergence of organizations which are *almost "a-spatial"*, and which can be called "vertical", "functional" or "analytical". They coexist on the same space.

Such organizations (industrial corporations, political and cultural associations, institutions and groups of all kinds) have often also a territorial dimension, and hence a geographical boundary; but this is not their *essential* boundary. Much more important are their "analytical" or "functional" or "vertical" or "normative" boundaries, which can be

and behaviors belonging to the system from those that do not belong (21).

2.3. Factors of the opening of boundaries

Vertical boundaries, like the "horizontal" or physical ones, can be more or less open, more or less closed. But there is a number of factors, in our present society, which support "openness" in theory and in practice. *Openness is almost synonymous with freedom*: freedom to select inputs from the wider possible range; freedom to communicate; freedom to know and be known; freedom to select one's own memberships and affiliations, to enter and walk out from groups.

But maintaining open boundaries has some direct costs: boundary control structures consume energy; members and resources can be lured away from the system if open boundaries are maintained in face of competitive pressure from the environment. A weak system, based on an economy of scarcity, can tend to close itself out in order to strengthen its internal structures. Protectionism is an universal phenomenon that can be found at all systemic levels. The building of solid walls is often a prerequisite in the early phases of development of systems. The division of social work, diversifications, the growing complexity of social institutions and subsystems, these are all processes entailing the emergence of boundaries among men.

In an economy of scarcity, dominated by the concern for the most efficient utilization of resources, social systems tended to assume a pyramidal, "feudal", bureaucratic structures, with vertical lines of communication and command converging on one center of decision and power. The boundaries of such systems tend to be closed, because communication with the exterior is mainly effected through the "top dog". The "Feudal structure" (22) permits maximum concentration of resources, maximum social control and maximum mobilization. Such concerns are no longer paramount in a situation of *affluence*, where "group needs satisfaction" becomes as important, or more so, than "formal achievement" (23). The needs of individuals and groups become more important than their "function" for society. Economic and technological development allows the allocation of increasing amounts of societal resources to the need for variety, change, discussion, education, participation in the richness and fullness of life.

Thus the rigidity and closure of boundaries, proper to harsh times, give way under the pressure determined by new needs for and possibilities of *mobility*: "social" mobility (through the social strata, classes, institutions, groups) fostered by industrial civilization; "spatial, horizontal" mobility, facilitated by affluence and technology; and also "cultural" mobility, made possible by the increased pace of change of ideas, values, meanings, forms of expression in turn encouraged by our "age of communications".

In this situation, "openness" is becoming a catchword, a value, an ideology. Privacy and individualism are sometimes praised, but only at the personal level; the ideology of the openness challenges them and advocates maximum opening of the self to the group, the "peer group" in the fifties, the "commune" in the sixties. And to be "open-minded" becomes one of the more important personal qualities of our permissive society.

But the opening of boundaries implies either the loss of differentiation of system and environment - i.e. the end of the system - or its evolution toward a higher level of complexity. Living systems have differentiated themselves from non-living systems precisely because they learned how to accept stimuli from the environment and react appropriately to them, thus adapting to relevant changes in the environment. As they widened the range of

By the same token if a social system wants to persist through a further opening of boundaries it has no choice but increasing its internal diversification, sensitivity, differentiation, complexity. *It must develop towards higher levels of sistemness.*

Thus development and boundaries are linked by a two-way relationship: development means the emergence of boundaries; but the opening of boundaries requires development. The first is the phase of protection, defense, security; the second is the phase of control, expansion, competition. They are the two faces of the adaptive process which called life (24).

The study of the diverse processes and mechanisms by which the systems are able to maintain their boundaries emerges then as a central concern for the study of living, open, complex, adaptive systems such as human groupings at every level.

STATEMENT III

The new approach to the study of boundaries does not stop at the legal-political-geographical analysis of the problems raised by the existence of National Frontiers. The systems approach sees the frontiers only as a particular manifestation of a much broader reality: the social boundary. This concept is considered as an analytical tool of general heuristic value. In general, the new perspective to the study of boundary problems emphasizes:

- openness vs. closure
- cooperation vs. conflict
- integration vs. separation
- the behavioral, sociological, cultural, economic aspects vs. the legal-political ones
- the dynamic, future-oriented, creative aspects vs. the static, past-oriented, analytical aspects
- the regional vs. the linear dimension
- the interplay among all "factors" of the "border phenomenon" rather than a deterministic linear causality of one factor over the others.

DISCUSSION

3.1 The cooperative and the conflictual perspective on the boundary problems

Historians, lawyers and political scientists have up to now dealt with boundaries usually in connection with conflict and competition between States. In this "dissociative framework" (25), borders are relevant only to security, defense and strategic considerations and studied mainly as a factor of the "power" of States or a cause, pretext, locus or theater of their disputes (26).

Of course, cooperation and conflict are only the opposite poles of the continuum human interaction. The competitive, hobbesian view of society sees man motivated only by self-interest and in real competition with his neighbor, even if the struggle for existence requires some form of appeasement and alliance and social bonds and ends-means rationality; this pessimistic view, brought to the international level, is called the "realist or "power" school of thought.

What is going on between many European border regions shows that boundary problems might interest also people professionally involved in the study of social interaction: cooperation, consensus, and the role of economy and values, rather than arms and power, the life of men.

2.2. Sociological aspects of border regions

Until now sociologists have paid little attention to border phenomena (27); but we can easily observe that border communities:

are often characterized by marked internal heterogeneity, because they house national minorities, more aggressive or less developed national feelings, border "controllers and defenders" (administrative and military bureaucracy);

have peculiar structural problems, opposing them to the "national centres", because of their marginal position;

have common problems and features that constitute a basis for mutual understanding of neighboring border regions;

often are an area of transition from one national system to the other.

When such phenomena are emphasized, there is no doubt that the study of the border situation is an interesting and promising sociological field (27).

3. The historical role of Border Regions

Historians are ready to show that many battles occurred on or because of boundaries; but they rarely, if ever, emphasize that frontierlands, borderlands, marginal communities have grown to be the centers of new socio-political systems. Many Nation-States are the result of the conquest of a cultural area by a marginal population. The examples are very numerous, and amount almost to a norm: the challenges of the "border situation" are such that often a new cultural-political synthesis emerges; the needs for military prowess and the opportunity for economic exchanges, and cultural cross-breeding have often resulted in new civilizations (28). Many capital cities of today were frontier towns of yesterday; many "marks" of old empires started building new empires around themselves. Throughout history boundary regions, like the bark of the trees, have been an active dynamic element of evolution (29). Evolution means, of course, also friction and conflict; but it means essentially integration and organization. Historians and political scientists, with their peculiar interest in conflict, have compiled some list of boundary disputes; but it is high time to chart the contribution frontier regions have given in the past to the growth of civilization; and to wake the awareness of their potentials to further international peace and integration.

4. The practical aim of the systems approach to the study of Border Regions

Our commitment to the systems approach and to human values (pacifism) means that the study of boundary problems is neither idle intellectual curiosity, nor an opportunity to sharpen methodological tools, nor the discovery of a quiet ecological niche in which some researchers can make a living and a specialization. It means, on the contrary, that the knowledge of reality is seen as a mere pre-requisite for an effort to change it in a "progressive" fashion; that we are not satisfied with the statu-quo, sanctioned in the normative structure of the States and in the International System; that we see national boundaries only as a particular case of a much wider problem, that of the infinite, invisible but very real and hard boundaries that run through men, engendering misunderstanding, suspicion, hostility and conflict. The futuristic, dynamic, creative and projective approach to the problems of social boundaries entails a commitment to contribute to their opening and to the development of the systems, by investigating the relationship between the two. This can be done historically (diachronically) with the study of the evolution of boundaries in the past; and systematically, investigating boundary processes at several systemic levels. In any case, all this should lead to practical suggestion or, at least, imaginative scenarios on the form

that social systems, at sub-national and supra-national levels, should take in order to ease boundary problems and maximize openness.

STATEMENT IV

The study of border problems is relevant not only for practical "political" reasons; nor is it relevant only to the development of the General Systems Theory framework. It is important also for the evolution of sociological theory. The Sociology of Borders or Border Sociology should not be taken as yet another special sociology. We see it rather as a contribution toward the integration within the basic sociological theoretical framework of two important elements
- the spatial dimension
- the systems approach

DISCUSSION

4.1. Space and Sociology

Usual sociological conceptual frameworks are a-dimensional or "punctual": social phenomena are conceived as if they happened in one point, and society had no extension in space. When sociologists talk of social action, social relations, status, role, institution, class, etc. they pay no attention to the spatial dimension within which the phenomena referred to actually occur. At the basis of "general sociology" lies a conception of society where distance is meaningless.

Even in those sociological branches where spatial phenomena are considered, as in urban and rural sociology (in its ecological, socio-psychological and historical-institutional varieties) the concept of space and distance is not very well utilized.

Thus the human ecology school could not bridge the gap between its conceptual scheme borrowed from biological ecology, and standard sociological theory; the psycho-sociological approach of Simmel and Wirth concentrates on the consequences of social density, as found in the towns; while the characteristically European "historical-institutional" approach merely employs in spatially defined fields (the rural and the urban environments) the traditional a-spatial sociological categories.

In general it can be stated that sociology has paid more attention to time than to space. Many theorists have observed that in the understanding and explanation of social phenomena the temporal dimension is more important than the spatial (30). But if we want to develop a more encompassing and "realistic" sociological framework, space can no longer be so grossly overlooked. It is characteristic that the older and more mature among the social sciences, economics, has long since enthroned space as an important variable; and nowadays most economic models must take into account the "regional" aspects.

4.2. Some contributions

There are many signs that such a re-evaluation is under way also within the field of sociology (31).

Talcott Parsons' conceptual system gives to the territorial position of the actor the quality of a "relational" attribute, but its relevance is limited to the usual urban and rural context. Parsons also considers space in the institutional-political context, as the territory in which force can be legitimately used. He also discusses "residence" as a "point of articulation", between the social system and the bio-psychological ones (32).

Many theorists comment more or less systematically on the correspondence and mutual influence between society as a socioformal reality (status-roles, functions, institutions, etc.) and the territorial organization, distribution of buildings and of personal space, networks and channels of communication, etc. (33).

4.3. Border Sociology as a contribution to Spatialization and an attack on Organicism

The emergence of "border sociology" is another contribution to this tendency to "spatialization" of sociology. But it goes beyond them because it implies a conscious attack on some implications of the current a-spatial framework.

We see it as a strong weapon against the "reification" of society, still conceived by many as an "organism".

There is a clear relation between the a-spatial framework and organicism: when we see society as an organism, indeed, distance can be overlooked, because in biological organisms all parts are so close and interdependent that the distance between them has little meaning. But when we think of social relations, status and roles, values, norms and institutions as variously distributed over space, our view of society becomes much more complex and supple. When we speak of "Italian" or "American" society, are we not usually just surrendering to old bad organicist habits? To what extent do the characteristics we associate with one "society" belong really to wider or smaller areas? And what are the dynamics of these sub-and supra-areas?

The study of borders seems to constitute an important contribution to this new framework, because it focuses on the *discontinuities* of the social-spatial field.

4.4. Political relevance of a "spatial" sociology

The political meaning of the spatialization of sociological theory and of the study of the "border situation" is to generate empirically founded conceptual tools for a policy of territorial redistribution and balance of economic as well as social, political and cultural values. We can no longer accept "national" ideologies that do not recognize the existence of differences within the "national" territory, apparently in the name of unity and homogeneity; in fact, in order to develop the Centres and exploit the Periphery (34).

4.5. Systems approach to sociology

The systems approach has made remarkable inroads in sociological theory (35). Many advantages have been pointed out by its advocates; not only a broader and more precise language, not only the benefits of interdisciplinary integration and cooperation, but specially the elaboration of a theoretical model much more adequate to the complexity of social reality that can hardly be encompassed by traditional static or "simply dynamic" models. Moreover the systemic conception of society is sharply opposed to any organismic or globalistic perspective, as the structures and the boundaries of every system are not taken for granted, but must be identified by analysis. In this aspect we see the convergence of both the spatialization of sociological theory and the modern systems approach. But the latter has the additional benefit of overcoming the traditional contrast between social "statics" and social "dynamics", through concepts such as "ultrastability" or transformability" (36) which suggest structural explanations not only of "homeostatic" phenomena but also those involving a change in the very control mechanisms and those involving the design of new systems.

Finally social change can be analyzed through the systems framework in order to

evidence the "epigenetic" processes, in contrast to the traditional "premorphic" approach, according to which every structural development and differentiation was contained "in nuce" in the simpler structures. The epigenetic or "incremental" approach, according to which the "mature" system is the result of an aggregative process of parts and functions, emphasizes the importance of what happens at the boundary of the system (37).

Thus the study of the border situation not only contributes to the growth of General Systems Theory, but, what really matters here, appears to be a relevant breach through which General Systems Theory can pervade sociology.

Not only "Centres" are studied, but also social peripheries, where different cultures meet, where cultural dominance and integration are more visible, where the indicators of intersocietal dynamics can be best gauged; and these dynamics can be well conceived in terms of overlapping and non-coincidence among the many social boundaries. A sociology of boundaries can well be the most appropriate form of systemic sociology, specially if we try to understand the world society.

The sociological analysis of border situation then is not the beginning of a new "special" sociology, of which there are perhaps already too many, but a contribution to a new sociological approach which tries to overcome the contrapositions between organismic reification and atomism, grand global synthesis and nearsighted analysis, social statics and dynamics, conflict and cooperation, deterministic premorphism and random epigenesis; especially in reference to the intersystemic integration and the emergence of continental systems.

STATEMENT V

The emphasis on the spatial dimension and on the systems approach leads us to suggest that:

- *there is a highly complex pattern of interaction between the physical and the social worlds*
- *the physical environment influences socio-political values and structures, and vice-versa*
- *it is possible to modify the physical environment for the purpose of facilitating desired changes in socio-political values and structures*
- *"voluntary geography", the purposeful modifications of the physical environment in border areas should be oriented to the optimization of cross-border linkages. Border regions should be planned as bridges between nations, not as barriers.*

DISCUSSION

The concept of "natural frontier" is largely an ideological cover for expansionist policies; the concept has long been exploded by scientific analysis (38). But there is no doubt that the natural features of border areas have been important elements in shaping the border-policy of States, in forming their (39) relationships with neighboring states, in the conduct of foreign policy and strategical moves. The relationship between the physical features and border policy has always been two-ways. But in times of primitive technology it was relatively hard for governments to change the physical features to suit their policy. They could raise Great Walls and cut down forests; but could not bridge great gaps, level or pierce through mountains, etc. In general, it can be suggested that in earlier times the separating factors could not easily be eliminated. They came to be viewed as the most desirable frontiers; isolation became a valued characteristic of states. Separation has some virtues; but it breeds mutual ignorance, suspicion and hostility. It can be still praised by those who value

the international balance of power over the development of world society (40). But the technology of communication, of course, has made the latter perspective almost inevitable. Isolationism is no longer possible; the "negative peace" (41) buttressed by separation must give way to "positive peace" based on integration. There are no natural obstacles to the development of the communication web. In this perspective the abandonment of the ideology of separation, granted by the natural obstacles and distance, must give way to the opposite attitude. In order to secure cooperation among the national subsystems of the world society, border areas must be transformed from empty no-man's land, deserted by men, capitals and factories, and furnished only with walls, Maginot lines and barracks, to junctions humming with peaceful activities stretching across borders, sewn together by numerous and strong networks of facilities and run by a host of joint, bi- or tri-national institutions. In other words, the planning of border regions should be oriented to the maximization of cross-border structures, both physical and social. This will heighten the "ecological destiny" (42) of border regions, to be the center of contacts between neighboring countries, the point of mediation and transition, the buffet area and, in an integrative perspective, the center of a multi-national system.

This idea is not new. It was propounded at the beginning of the century by a leading authority in the political geography of the boundary, L.W. Lyde, who, in opposition to the "separatist" theory of Holdich, recommended that international boundaries should be traced not through empty quarters, but through high-density zones, in order to force the neighboring states to cooperate in their joint administration (43).

STATEMENT VI

The relationship between regional planning and the problems of frontiers can be suggested as follows:

- *the Earth is one system, and all boundaries are internal boundaries*
- *national frontiers are unnatural discontinuities that can jeopardize the persistence of this system in humanly acceptable conditions*
- *the only difference between national frontiers and other kinds of boundaries is that States have elaborated powerful armed organizations to defend them, a complex system of International Law to prevent any undesired "input", and a religion of Nationalism to make them sacred and inviolable*
- *problems raised by the State boundaries should be approached with the same rational attitude commonly employed by regional scientists and planners in dealing with other types of boundaries*
- *regional planning and related sciences can make relevant contributions to "positive peace"*

DISCUSSION

6.1. The international-political roots of the world ecological crisis

Our present ecological crisis is largely due to the fact that the world society is still fragmented in the International System, whose "actors" are busier competing with each other than fighting the enemy, Entropy. Common enterprises for the conservation and control of the natural environment are slowed down perhaps to the point of no return because of divisions and suspicion among the States, while the competition for power, security and prestige is one of the main drives to economic and technological "growth",

Our technological civilization has exposed the interdependence of Nature and Society and, enveloping the world with a web of communications, has provided the means for world integration (45).

Conservation of the environment and, indeed, the survival of the world system we know it, is not a technical problem; it is a political problem, a problem of value and social structures (46). Only a careful, comprehensive, long range planning can avert the ecological catastrophe toward which we are heading within the next few decades.

6.2. Need for planning at the international scale

By "planning" we mean a tendentially rational, scientific system of decision making and resource allocation for the future in a changing, complex environment. Planning can be defined as scientific policy-making (47).

The term "regional planning", currently used in place of "comprehensive" "environmental" planning, emphasizes the relevance of the territory, the space, the land, the physical environment in the life of societies. It also points to the fact that planning has developed essentially in a sub-national context, dealing with internal problems (48).

But the growing world interdependence has exploded the idea of some essential diversity between "internal" and "external" problems. Ideas and myths as well as germs and poisons do not stop at national frontiers. Rare resources can be vital to the survival of societies, not only of the Nation in whose territory they happen to be found, nor only of the Nation that can afford to buy them.

Planning the development and the survival of mankind requires a re-consideration the meaning of "National Sovereignty" and its strongholds, the National Frontiers.

6.3. Regional planning and the problem of delimitation

Regional planners have long since busied themselves with problems of "levels decision making", "optimum administrative areas", et sim.; they are quite familiar with the problems of delimitations, aggregations and subdivisions, the difficulties of finding satisfactory lines of division between competences and jurisdictions of functional and horizontal systems; they know that to find the territorial frame of reference adequate to the problems and activities under consideration is both essential and hard; that boundaries must be clearly drawn, but "wherever you draw boundaries you meet problems" (49).

Nation States are not the only socio-political systems that regard their territory sacred and their frontiers untouchable: every civic administration holds similar attitudes, and it is not surprising that the relationship between the several administrative units in metropolitan area has been sometimes analyzed through models drawn from international politics (50). The boundaries between the many "local governments" are often inadequate since they have usually been drawn in earlier times, for different ends, with obsolete criteria they mirror social, economic, demographic realities quite different from the present and future ones. And yet all sorts of boundaries show a marked proclivity to crystallize and consecrate themselves, once they have been institutionalized by law. The persistence of boundaries through the centuries and millennia is a phenomenon well known to urban and rural sociologists and to students of organizations. It is linked with the broader phenomenon of social inertia. But in a dramatically changing world like the present one, what is needed is the correspondence of form and function, of the official boundary and the area really affected by the activity to which it refers.

Regional planning and the problems of international boundaries

The problem of delimitation, demarcation and boundary-making thus is no longer a problem peculiar to the international system, dealt with by generals, diplomats and cartographers; it is a typical problem of regional planning.

Planners have not only met *internal* boundary problems. Rational organization of settlements in border areas makes it mandatory for planners on one side to seek cooperation of their counterparts on the other side of a national frontier. The situation is not very different from the interior: streams and winds and pollution do not stop at frontiers; natural features show only hazy boundary lines; the flows of commerce and economic and cultural influence are distorted but not annihilated by frontiers. Such elements created by regional planners in the same cool way they treat other boundary problems, is the tendency to organize rationally the territory via regional planning leads to a neglecting of the national frontiers, at least in the minds of people.

Regional planning and its ancillary sciences of human ecology, regional science, social geography, architecture, "ekistics", transport engineering, etc. and its sophisticated methodologies, based on the systems approach, are opening the way toward a more rational and promising, human and humane, outlook on the problems of frontiers.

And more in general, the men who deal with our physical environment, who try to realize the man-society-economy-nature relations, who strive to shape our environment to fulfillment of human needs (among which is the conservation of nature) are emerging as popular heroes of mankind (51).

The new scientific dream

Once again social philosophers see in the cooperation of scientists of all disciplines for noble effort to control the forces of nature the royal road to the unity of mankind and peace (52). The great cosmopolitan dream of the enlightenment, the rule of Reason and of Wise Men, is upon us again. Nationalism and wars destroyed it once, and mankind revived. Will we be given another try? On one corner, Nations wield the Bombs; on the other, Nature is hissing out her wrath; in the third, Reason preaches faith in sciences and computers. The protagonist, Mankind, agonizes, kicks, and cries in bewilderment.

Many things have changed since the early XIX century, but the plans advocated these days by many social philosophers for the purpose of securing peace and happiness for mankind would delight the Count of Saint Simon. We do not preach so much conquest of nature, but conservation; we play down industry and technology in the name of ecology; but again the dream of a mankind united under the wise, scientific rule of a single, integrated decision making system, and all bent on the peaceful works of development is on us.

This time, however, the emphasis is on survival rather than on progress, and on necessity rather than free choice. This time it appears that we can hardly afford to avoid the unitarian experiment; the pains appear exceedingly heavy.

The perspective of the integration of mankind is not without rather dark sides; not as bleak as the defenders of the balance of power system and of National Sovereignty paint them, perhaps; but things certainly are not as easy as many internationalists and cosmopolitans of all confessions think. The withering away of national frontiers could mean homogeneously boring or frightening blanket of conformity spread all over the world, destroying the rich variety that makes the world worth living in.

"To assemble peace-making power into a world authority without a revival-

ization of autonomous units capable of exercising local and regional initiatives would be to rivet together the ultimate megamachine" (53).

Regional planning, with its scientific-systemic approach (54), its capacity to mobilize the sciences of man, with its sensitivity for the relationship between man and the physical environment, with its emphasis on the sub-national and supranational units, is becoming one of the intellectual, emotional and political focuses of our time. What the Nation was for XIX century social philosophers, the Region is fast becoming in our own time.

STATEMENT VII

There are three main scientific perspectives to the study of boundaries:

1. *International law and "international relations", i.e. the formal and the substantive approach to international phenomena. Here borders are seen as elements of the States and frequent sources of conflict. They often are also conditions and determinants of the state behavior (especially in the geopolitical perspective).*
2. *"Sociology of international relations", anthropology and ethnology. These disciplines are particularly interested in the border areas as zones of meeting, mixing, confrontation, innovation and transition between different cultures.*
3. *Human, urban and economic geography, spatial economy, regional science, "ekistic" (or science of human settlements). In these perspectives international borders are seen as a particularly "strong" and "closed" type of territorial discontinuity, affecting in several ways the patterns of settlements, of infrastructural networks, of the whole landscape.*

DISCUSSION

7.1. International law

Of the traditional academic disciplines, law and especially international law, are most interested in boundary problems. International law textbooks usually have a chapter on the territory of the State and its delimitation; many theoretical and practical disputes arise in connection with boundaries. International law deals not only with problems of demarcation, recognition, interpretation, exception et sim., concerning the physical frontier; but also with the many problems arising from the *analytical* boundaries: international *private* law concerns precisely the interplay between territorial and personal jurisdiction, the status of things, persons and events that belong to one State even if they are found in another, etc.

Although it has authoritatively been pointed out that the boundary is more of a geographical than a legal problem (Dorion) many interesting and wide-ranging contributions to its knowledge come from international lawyers (55).

7.2. Geography

The discipline that has studied the boundary more systematically and consistently is geography in its various specializations. XIX Century human geographers like Ratzel had surprisingly brilliant insights into the structure and function of boundaries, and they have produced a wealth of empirical data on the matter (56). Social and economic geographers have done many case studies on borders (57), and textbooks of political geography usually feature some chapters on them (58). Typologies and axioms are developed. More than law, geography deals also with "administrative", internal boundaries, and with present effects of old frontiers. Geographers have from the beginning debunked the ideology of the "frontières naturelles", showing that there is no such thing as a geographical boundary, because "natura

fact status". The dynamics of boundaries, as an expression of the States, were studied particular attention by "geopoliticians", along with other elements as form and content, but this school of thought tended to exaggerate the mechanistic workings of such elements on the State, and to reify it (59). The abandonment of the geopolitical approach, consequence of its extravagant claims, seems however to have been an overreaction; concepts and many data gathered by "geopoliticians" could be recovered and integrated in a more sophisticated socio-political framework (60).

"Limnology"

Lawyers and geographers form a natural team every time there is a boundary dispute settled by peaceful, "scientific" means. No wonder then that the dispute about the Mac-Terreuve frontiers has generated a new academic figure, the "limnologist", the expert in the geography and law concerning boundary-making, the builder of an "Etude matricielle des Frontières", like Henry Dorian of Laval University, Québec, Canada.

Sociology and political science

The *frontier*, rather than the *boundary*, has first attracted the attention of social scientists; there is no need to recall here the immense influence of Frederick Jackson Turner's "The significance of the Frontier in American History" (1893) in American social philosophy, and, subsequently, in sociology; it is the frontier, not the boundary, that is discussed in the International Encyclopedia of Social Sciences.

We have already discussed to some extent the role of the concept of boundary in sociology. Even before the emergence of the modern systems approach, T. Parsons coined "boundary maintenance", along with "pattern maintenance", as an essential function of the structure, but it did not develop the distinction, and it is very hard to find a consistent clue on this problem in his writings (61). Empirical sociology has given some attention to the peculiar problems of the "border situation"; f.i., Samuel Surace has studied minorities along the United States-Mexico border (62).

Political and international sociology have dealt somewhat more systematically with the problem. Feliks Gross has written on the sociological role of border zones, the dependence of internal and foreign policy, et sim. (63).

Roger W. Little has done some research in the different boundary conceptions and their evolution in Islamic and Asian countries (64). Robert Angell has long been interested in the problem of Trans-national flows of people, ideas, things (65). Of all political sociologists, E. E. Schattschneider uses the boundary concept most frequently and most strategically; he is aware that international integration requires the devaluation, expansion and uplifting of boundaries that separate human collectivities and run through men's minds (66).

The concept of "analytical", "vertical" or "organizational" boundary was already used by the perceptive mind of Max Weber, who is also the source of many sociological elements on the role of force and territory in the make-up of the State (67). Also Simmel has thought to the problem of social boundaries (68).

Modern systems-oriented thinkers who have reflected on a "future desired world", have all understood that a more stable world community can only be secured by breaking up the territorial State's monopoly over the people living inside its boundary. The future world will be organized mainly along vertical, functional, voluntary-associational lines. Marvin (69) quotes Galbraith, Drucker, Etzioni, Barrington Moore and others as proposers of a "systemic" society as opposed to the present mainly "territorial" society; and James

Coleman (70) emphasizes the need for this "social invention".

Political scientists, as already noted, have however paid only scant attention to the problem. Traditional textbooks of *international relations* study boundaries essentially as an element of the power of States and as occasion or cause of conflict. But some systems-oriented writers like Karl W. Deutsch have brilliant insights into the shifting flows of community integration with its up-grading and de-grading of boundaries, on the psychological boundaries erected by nationalism (71), etc. J. David Singer has recently emphasized the role of the boundary concept in a General System Taxonomy for Political Science (72).

Other computer-minded political scientists like Bruce Russett have attempted to "delineate international regions", that is, to find out empirically where the relevant borders of regional groups of nations lie (73); and others, like Mattei Dogan, have come to the conclusion that the traditional, formal, recognized State is no good for certain kinds of international comparisons; he proposes smaller "ecologically homogeneous" units of analysis for comparative politics (74). Richard Rose and others have attempted, with negative results, to make regional patterns emerge within some States analyzing the electoral behavior; in these endeavours the main problem is often the identification of the proper boundary (75).

It seems that modern political science has been until recently rather uninterested in the spatial dimension of political systems; but there are some exceptions like the Sprouts (76) and J.D. Herz, who in his classical articles on the "rise and demise of the territorial State" stressed the role of the penetrability of boundaries to foreign violence in changing the meaning of the State for its people (77). The case had been made some years before also by K.E. Boulding (78).

Walker Connor, studying the "Myth" of territorial "unity" has interesting remarks on the role of territorial "images" as defined by the perceived boundaries; and on the role of boundaries in modern war, and especially guerrilla warfare (79).

7.5. Psychology

Some attention to the boundary problems has been paid also by psychologists of the several schools. The distinction between ingroup and outgroup is one of the earliest boundaries rising into the consciousness, right after the distinction between the several components of the self and between the self and the other. Such basic distinctions seem to lie at the basis of the emotional importance all kinds of boundaries carry with them (80).

Of remarkable interest are also the contributions of *gestalt* psychologists on the perception and hence the definition of the boundary. Jurgen Ruesch states that the problem of boundary is a complex one; among its most important aspects he distinguishes the internal boundary, the external one, its structure, openness, filtering and selective function, exchanges in places other than the openings, changes in location, interpenetration, maintenance, growth, function, irreversible changes, destruction. He also distinguishes the boundaries of "natural" systems from those of our perceptions of them. Perceptual boundaries depend on dimension, situation, density, proportion and all sorts of factors which are functions of the value system of the observer, and not of the real system (81). Donald T. Campbell, following Wertheimer's principles on the organization of perception, identifies 1. Proximity, 2. Similarity, 3. Common Fate, 4. Pregnancy, good continuation or good figure as "a source of boundaries" in the sense that they are factors of the emergence of a perceived "entity" (82).

Finally, it can be recalled that boundary, as well as distance, is a key concept also in the field theory of social psychology, and that Kurt Lewin has written on "Frontiers in

3. Animal psychology and sociology (ethology)

These disciplines have studied in detail the territorial behavior of many animals, and recovered the essential role of distance and of boundary in their behavioral patterns. The frontier is the place where the animal exercises its fighting prowess, where it confronts competitors and finds the excitement of the fight, in contrast to the "core" of its territory where it finds security and quiet. Boundary maintenance is seen as essential to the well-being of the individual and of the species (84). Drawing on such insights, some writers have hypothesized that also man carries around him a series of "bubbles", marking the "critical instances"; which is, in other words, a system of boundaries (85).

4. Anthropology and ethnology

Anthropology and ethnology are interested both in border areas as places of meeting different groups, and in analytical boundaries that keep groups culturally separate even when living on the same territory. Abel *Minghio* has written very erudite and profound pages on the subject (86); he stresses, among other things, the benefits that clear boundaries have brought to civilization, limiting the occasions of conflict between nations. The stabilizing effects of boundaries are praised also in other contexts. Frederick *Barth* (87) has collected and edited a most interesting symposium on the mechanism by which ethnic groups maintain their boundaries, i.e. their identity.

5. Biology

In the biological sciences a nice question of boundaries concerns the process of "specification", i.e. the mechanisms by which a species first differentiates itself from parent and parallel species and then maintains its "differentiae specificae"; this is the biological counterpart of the boundary-maintaining mechanisms of ethnic groups. As in the case of the maintenance of analytical boundaries has *some* relation with the spatial distribution of the population. Spatial isolation and inbreeding helps the conservation of the "differentiae specificae" and their variations according to their inner genetic potentialities; the contacts between species, usually occurring at the border areas, can favor the exchange of genetic material, homogenization and the appearance of new species (88).

6. Strategy

Not surprisingly, the problem of boundaries has been extensively treated in the context of strategy. Some remarks by von Clausewitz open the way not only to geopolitical considerations, but to a deeper understanding in the interplay of the physical and the psychological aspects of strategy (89). Thomas *Schelling* deals with the symbolic meaning of boundaries, which are seen as belonging to the wider category of thresholds and limits, which contestants impose on themselves and try to communicate to each other, so that the conflict remains under a certain order and control (90).

7. Interdisciplinary studies

Historians too have studied frontiers, either monographically or more systematically; there exists a number of books on frontiers which summarize elements of historical, geographical, legal and social-scientific knowledge; beginning with Lord *Curzon's* little classic "Frontiers" (1908). More recently, a similar status of classic has been attained by

Latimore's "Studies in Frontier History" (91).

Other studies focus on the African boundaries, and try to integrate legal, historical, geographical, economic and sociological knowledge in order to understand the exciting process by which wholly artificial boundaries imposed by colonial administration are trying to develop functions and structures similar to those of traditional European boundaries (92). A comprehensive project for the study of boundary problems in several context is under way at the department of History of Lund University; social science models are employed (93).

7.11. "Ekistics"

We have already noted that economic geography, space economy, regional sciences and similar disciplines that try to integrate the territorial and the economic phenomena have met the problem of boundaries (94). "Ekistics", the "science of human settlements" ambitiously developed by Costantino A. Doxiadis in order to systematize the knowledge needed by architects, town- and regional planners, drawing it from all the relevant human disciplines (biology, geology, geography, economics, sociology, political science, psychology, law, etc.) studies boundaries at all "ekistic" levels (95). Other students of socio-spatial phenomena have paid some attention to the matter: see, e.g., the recent "The Spatial Organization of Society" by Richard L. Morrill (96). Kevin Lynch has done research on the visual boundaries in the city and Jane Jacobs has emphasized the destructure effects, of architectural barriers (97). Paolo Sica and others (98) have inquired into the psychological and symbolic processes that motivated the erection of huge city walls in antiquity and gave them their sacred aura. Jay Forrester, in developing his computer model of an urban system, gives an operational definition of city boundary (99), substantially advancing on the theoretical level the suggestions of Gibbs and others on the same question (100).

Rather curiously, due to the influence of Turner, in American literature on regional planning the concept of frontier has taken on a quite different meaning (see Friedmann and Alonso, 1964, p. 3 ff.): "frontier region is a depopulated, far-away, wild area undergoing a process of induced development.

7.12. Political economy

Economists have from the beginning considered the problem of national frontiers as a hindrance to free trade and international division of labor. Cobden and other liberals have marked them with burning comments. But modern international economics does not seem to have focused systematically on phenomena more particularly linked with frontiers and boundaries. Econometrics has not developed a system of indicators distinguishing "small border trade" occurring in border regions from truly *international* transactions (101). On the other hand, as already mentioned, regional science, space economics and similar disciplines have done some research on problems related to the boundaries. Both Marxian theories and the central place models deal with the tendency toward concentration of resources and the correlated desertion of the peripheries; the dualism of development at the center and exploitation- underdevelopment at the periphery is one of the unfortunately emerging realities of our times, as Myrdal stresses. Such problems are clearly connected with the existence of boundaries: periphery and boundary are mutually reinforcing phenomena. The literature on this subject is so well known and abundant that there is no need to recall it here. Suffice it to note that this dual process lies at the basis of territorial, regional imbalances at the national as well as the global level and is one of the most important sources of social injustice and unrest. Many peace researchers and other ethically committed

students are focusing on this mechanism as the main hindrance to "positive peace" (102).

STATEMENT VIII

The present conference has two main purposes:

- to assess the present state of knowledge gathered in different countries and in different disciplines on the subject of boundaries

We suggest that such a program should bing on three main links:

- boundaries and systems
- boundaries and Nations
- boundaries and Regions

DISCUSSION

The Institute of International Sociology has been encouraged by the circumstances to select the study of the boundary as its main area of specialization. Since 1969 we have worked on two levels:

- the development of a conceptual framework based on the existing empirical and theoretical materials

- the gathering of a mass of fresh empirical data and the advancement of some generalization based on the Italian North-Eastern boundary

The progress of our studies now requires a *tightening* of the *theoretical net* and a *widening* of the *empirical basis*. We feel that there are eight major groups of data that should be collected by further research:

8.1. Data on structures and subsystems whose function is to maintain the boundary between the system and environment, at different levels of systemic complexity, from sub-human systems to the small group and from the family to the most important communities institutions. This type of data is basic in order to plot the relationship between the evolution of the system (in terms of size, complexity and other characteristics) and the evolution of the boundaries and to extrapolate the likely evolution of boundary-maintaining structures.

8.2. Historical and anthropological data on the boundary-maintaining structures in political-territorial systems, in different cultures and different historical periods

This should enlighten the different types of boundaries man has devised, the different systems of behavior related with the boundaries and the several ways men have thought of, conceived and attached symbolic connotations of value to boundaries. This research is aimed at shattering unconscious culture-bound stereotypes we may harbor about boundaries and boundary-maintaining and which keep us from looking at the problem in a fresh and imaginative way.

8.3. Data on present day borders and patterns of boundary maintaining structures at the Nation-State level

How do states organize, "de jure and de facto", the surveillance and protection of their boundary, both geographical and analytical? What are the legal international conventions about these questions? What are the prevailing ideologies and mythologies behind such regulations and operations? These are the ground data against which an

eventual new cultural approach to the problem of maintaining boundaries should be matched. These data aim at giving a picture of the status quo possibly needing modification.

8.4. Structural-functional analysis of boundary-maintaining structures: both mental, symbolic - like ideologies and stereotypes - and concrete, institutional structures like bureaucratic organizations. This should give us a social-scientific typology of boundaries.

Some variables of this typology could be:

a) *Degree of importance* of the boundary: that is, the degree to which the maintenance of the focal conditions of the system depend on the efficiency of the boundary; also, it relates with the importance of the system bounded.

b) *Nature*: the type of inputs it is intended to select. The inputs move through different media; so we have boundaries dealing with flows of people, things, energy and information, moving through roads, waters, wires and electromagnetic waves.

c) *Blurredness or delineatedness*: the degree to which the boundaries are clearly delineated in space or unambiguously set analytically. Most divisions between natural phenomena, socio-cultural systems included, are not clean and sharp but gradual along a gradient or continuum. The delineatedness of legal boundaries is a source of incongruence and tension. Even if the boundaries of each "pure" system can be drawn unambiguously, complex systems like the political, socio-cultural and "ekistic" systems are likely to have several types of non overlapping and non-coinciding boundaries.

d) *Permeability*: the degree to which the inputs are screened, filtered and selected. It can be defined as the ratio between the total amount of potential inputs and those that are allowed in. A boundary can have different permeability ratios according to different kinds of inputs, of conveyors, etc.

e) *Effectiveness*: The degree to which the boundary can be regulated by the decision-makers, i.e. the degree to which the government is able to control the inputs, the pressures from the environment, by varying the degree of permeability. Some boundary-maintaining structures are primitive, rigid and poorly adaptable to variations in the environment. Others are sensitive only to gross variations and operate by thresholds.

f) *Stability*: the ratio between the age and the spatial or analytical variations of a boundary.

8.5. Data on border regions

This applies especially to territorial political systems and to those where a regional subdivision can be detected. These data should concern the geographical, ekistic, economic, socio-cultural realms; special attention should be given to the political, administrative and legal organization of border regions.

The data should be arranged along variables as:

A. *Homogeneity* of the border region with respect a) to the mother country, b) to the neighbouring border region and c) to the neighbouring country.

B. *Conflictuality*, due to any kind of traditional, psychological, economic or political reason, between the border region on one side and the mother country, the neighbouring region and the neighbouring country on the other side.

8.6. Data on the impact of the type of boundary tenure, boundary regime or boundary policy on the foreign policy of a country

For instance, the reliance on defensive methods like walls, moaths and no-man's land

can encourage isolationist policy, decline of adaptivity and resilience, scorn of aliens, mistrust or other cultural characteristics that may in turn affect foreign policy.

8.7. Data on decision-making processes concerning issues in the administration of border regions especially to point out the degree and the forms by which foreign policy considerations interplay with internal policies, i.e. interfere with the interests of local populations.

8.8. Data on the way the several characteristics of the boundary, the several patterns of boundary maintaining structures affect border regions from an economic, cultural, psychological, political point of view; how different boundary regimes affect the institutions, the attitudes, the values and the behavior of local population; especially in relation to the internal issues (sociology of border).

8.9 Conclusions

These seem to be, on first sight, some of the most relevant areas of research if the purpose is to develop a theory of the boundary that is not merely heuristic, but also socially useful in the long run. Along these lines the Institute of International Sociology of Gorizia has just started working, looking for results that would prove that the Theory of the Boundary is not a scientific dead end; but yet another cultural tool, among many others, to the understanding of the international arena and the pursuit of a world worth living in.

NOTES

1. Compare, e.g., the "classics" in systems theory selected by Walter Buckley in his reader, *Modern System Research for the Behavioral Scientist*, Aldine, Chicago 1968, and more recent literature, such as F. Kenneth Berrien, *General and Social Systems*, Rutgers University Press, New Brunswick 1968; id., *A General Systems Approach to Human Groups*, in Milton D. Rubin, ed., *Man in Systems*, Gordon and Breach, New York-London-Paris, 1971. Berrien places the discussion of boundaries at the beginning, and at the conceptual center, of his essays (see p. 120 ff.). In the same book, Michael Marini (*Notes on the Education Complex as an Emerging Macro-System*) also starts with a discussion of the several boundaries (functional- spatial- input, beneficiary- and time-) and the paper is structured on the analysis of the educational system's boundaries. In the Buckley anthology, the concept of boundary is emphasized by Hall and Fagen, *Definition of System* (first published in 1956), and Buckley himself; even they however do not discuss it extensively. Other classics of the General Systems Theory, like the J.G. Miller articles published by "Behavioral Science" in 1965, and the Bertalanffy book, *General Systems Theory*, Braziller, New York, 1968, barely mention the concept; Miller buries it in his complex taxonomy of system structure and processes. Of the most established writers of this school of thought, Alfred Kuhn seems to have reflected more on the concept of boundary; see both his earlier *The Study of Society, a Multidisciplinary Approach*, Tavistock, London, 1967 (first published in 1963) and the more recent *Types of Social Systems and System Controls*, in the Rubin anthology. Other popular systems-oriented social scientists have discussed the boundary concept: see the Deutsch-Easton-Almond tradition; e.g., G.A. Almond, G.B. Powell, *Comparative Politics, a Developmental Approach*; Little-Brown, Boston 1966.
2. For the term, see Marini, 1971, p. 183; and in other papers of the Rubin book, *passim*. The concept, of course, is quite familiar to all systems thinkers.
3. The concept of Boundary Maintenance was introduced in the social sciences, but not developed, much before the *modern* systems approach, by Talcott Parsons. Jiri Kolaya, in *Social Systems and Space and Time*, Duequesne Univ. press, 1969, suggests that the difference between the concept of structure and the concept of System lies precisely in the fact that the latter necessarily has a boundary. If we remember that according to other authors the difference between structure and

system is the necessary presence of feed-back loops among the components of the latter, we arrive to the definition of boundary proposed by Forrester (see note 99).

4. We shall not deal here with the complex and fluid distinctions between inter-, trans-, multi-, cross-, meta-disciplinary.

5. D. Easton has icastically observed that problems "do not come in neatly subdivided into departments like universities". Others have observed that there are two basic research orientations: the "problem" orientation, which leads to interdisciplinarity, and the "method" orientation, which emphasize rigorous disciplinary consistency. Of course, it has also been authoritatively observed that "all knowledge, all science begins with a problem" (K. Popper).

6. The references of this point are innumerable. The idea has become the motto of the Society for General Systems Research. See Rubin (ed.), *op. cit.* Also the critics of G.S.T., while pointing out its lack of substantive content, and therefore the illegitimacy of the word "theory", agree that its basic value is as a formal grammar, a calculus, a language. Also the *practical* orientation has been widely emphasized; see, among others, A. Rapoport's *Introduction* to the Buckley anthology. The affinity of G.S.T. with operations research, systems engineering, etc., is well known.

7. See below, Statements IV and VII.

8. Walter Lippman, *Public Opinion*, 1922; the role of the "images" (the platonic "ideas") as a driving force of reality, at all levels, so emphasized by XIX century German idealistic philosophers, has been widely popularized in U.S. in the cybernetic version of K.E. Boulding, *The Image*, 1956.

9. The classic Weberian distinction between the two ethics has been recently resumed by Amitai Etzioni in his urge that commitment to values be divorced neither from knowledge of reality nor from the responsible incumbency in power roles; this he calls the "active" orientation. *The Active Society*, The Free Press, New York, 1968, p. 4 and *passim*.

10. Joseph S. Nye jr. (ed.), *International Regionalism, Readings*, Little, Brown & Co., Boston, 1968. This definition of Region and Regionalism comes mostly from the usage of the word in the United Nations circles. So widespread is this meaning of the term in International Relations and Peace Research that in discussing the peace-potential of *sub-national* units, in the Middle East case, Johan Galtung employs the term "canton" (cf. Johan Galtung, *Middle East and the Theory of Conflict*, in "Journal of Peace Research", 3-4, 1971). By "subnational region" or "region" tout court we mean essentially the same thing as "canton"; but prefer the more common term. Interestingly enough, also in Italy the first post-war doctrines of regionalism looked at the Swiss cantonal arrangements for inspiration; specially in reference to border areas and ethnic minorities. See E. Rotelli, *L'avvento della Regione in Italia*, Pozza, Vicenza-Milano, 1964.

11. The terminology in the planning circles is still in a very fluid state. "Territorial" - "physical" - "town and country" - "environmental" - "comprehensive", have been variously used and abandoned. Also the disciplines that form its conceptual bases have very whimsical denominations; one of the most widely recognized is, however, "regional science"; thus it seems that the term "regional planning" has good chances to impose itself. Among the main handbooks on the subject, see Friedmann and Alonso (eds) *Regional Development and Planning*, M.I.T., 1969; Maynard F. Hufschmidt (ed) *Regional Planning, Challenge and Prospects*, Praeger, New York, 1969. In Europe the term has gained official recognition at the higher levels: see the publication of the Council of Europe, *Regional Planning, A European Problem* (1968); in which what is meant is, quite clearly, comprehensive, integrated, "general" planning in its territorial specification.

12. See J. Galtung, *The European Community: a Superpower in the Making* (forthcoming). Similar worries had been earlier expressed by Bart Landheer, *Sociological Observations on European Integration*, "Il Politico", Dec. 1969.

13. Among the strongest advocates of this view is Denis de Rougemont; see his two collections on *L'Europe des Régions*, Genève 1968 and 1970; especially the entries of Rougemont, Héraud, Quemonne, Miroglio, Despicht, Romus, the useful bibliography and the list of memorable quotations. The same idea has struck Anthony Sampson in his *The New Europeans*, Hodder & Stoughton, London 1968.

14. The European Community has established a Division for Regional Policy, but its operation is hindered by the bureaucratic centralism of some member states; the idea of "Europe des Patries" is clearly incompatible with regionalization. In Italy the link between sub-national regions and European unity has been also discussed: see AICCE, *La Regione Italiana nella Comunità Europea*, 1971; P. Ugolini, *La regione in Italia*, 1970.

The necessity for cross-border cooperation was emphasized already by the II European Conference of Local Authorities in 1938. The theme was attacked again in 1964, and resulted in a proposed European Convention for cross-border cooperation approved by the Consultative Assembly of the Council of Europe but rejected by the Committee of Ministers. The problem was treated in the Bonn Conference of Ministers Responsible for Regional Planning and was the object of a European Symposium of Frontier Regions, Strasbourg, 1972. Also the European Communities have concerned themselves in some degree with frontier regions: see the proceedings of the symposium on border regions/organized by P. Romus of the Université Libre de Bruxelles, November 1969, *Les Régions Frontalières d'Haute du Marché Commun*, Presses Universitaires de Bruxelles, 1970.

See Buckley, op. cit. and id., *Sociology and Modern Systems Theory*, Prentice Hall, Englewood Cliffs, 1967; Kuhn 1967; Rubin (ed) 1971.

The fundamental "law of requisite variety" recurs in many writings of W.R. Ashby, who as made it popular among system theorists; but goes back to the work of Shannon.

The relationship between communication theory, cybernetics and General Systems Theory is discussed, among others, by Bertalanffy, 1968; "Energy and Information" models of social systems, influenced by the new ecology, are being currently developed; cf. A. Etzioni, 1968.

The felicitous expression is by Zbigniew K. Brzezinski, *America in the Technetronic Age*, School of International Affairs, Columbia University, 1967.

Bruce M. Russett, *The Ecology of future international politics*, in *International Studies Quarterly*, 2, II, March 1967, pp. 12-31.

For the distinction between the two kinds of boundaries, see, e.g., R. Strassoldo in a mimeographed paper of 1970, *From Barrier to Junction: toward a sociological theory of borders*. Alfred Kuhn has developed the same point in the 1968 Dallas Conference of the Society for General System Research. The concept of "analytical" boundaries (or whatever one might wish to call them) was, of course, well present in many earlier sociologist, like Weber and Simmel. F.K. Berrien (1968, 1971) has developed the concept of *norms* as the characteristic social boundaries.

The terminology is Galtungian but the concept is well known to the students of organizations and power.

F.K. Berrien, 1968.

V.R. Potter, *Bioethics, Bridge to the Future*, Prentice Hall, Englewood Cliffs, 1971, identifies life with adaptation. The notion is also common among system theorists.

J. Galtung op. cit. 1971.

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See Renzo Gubert, *La situazione confinaria*, Lint, Trieste, 1972; with an introduction by Franco Demarchi.

See Franco Demarchi, op. cit., and the related bibliography.

The idea has been particularly propounded by O. Latimore in a paper first presented at a Historians' convention in Florence, 1956, and later expanded in his book, *Studies in Frontier History*, Mouton, Paris - The Hague, 1962.

See the review of the opinions of such theorists as Simmel, von Wiese, Halbwachs, Sorokin, Parsons, etc., on this subject, as presented by Jiri Kolaja, op. cit., 1969.

See, for instance, R.L. Meier, *A communication theory of urban growth*, M.I.T. Press, 1962, p. 26 and ff.; M.M. Weber, *Luoghi urbani e sfera urbana non locale*, in V.V.A.A., *Indagini sulla struttura urbana*, Il Saggiatore, Milano 1968, p. 137 and ff.; O.R. Galle, K.E. Taeuber, *Metropolitan migration and intervening opportunities*, in "American Sociological Review", 31, 1966; G. Karlsson, *Social mechanisms*, Almqvist & Wiksell, Stockholm 1958, p. 47 and ff.; W.R. Catton jr., R.J. Smircich, *A comparison of mathematical models for the effect of residential proximity on mate selection*, in "American Sociological Review", 29, 1964; D.C. Barnlund, C. Herland, *Proximity and prestige as determinants of communications network*, in "Sociometry", 26, 1963; R.F. Priest, J. Sawyer, *Proximity and peering: bases of balance in interpersonal attraction*, in "American Journal of Sociology", 72, 1967; R. Sommer, *Further study of small group ecology*, in "Sociometry", 4, 1965; M. Argyle, J. Dean, *Eye contact, distance and affiliation*, in "Sociometry", 3, 1965. A further

impetus to the "spatialization" of societies comes from the borrowing of models from ethology, as in the elaboration of "Proxemics", or the study of the meaning of distance in animal and human behavior. The concept of territoriality has sparked some studies, like the one by Gerald D. Suttles,

A strong drive to the spatialization of sociology comes, of course, from the requirements of architecture and planning.

32. T. Parsons, *Structure and Process in Modern Societies*, The Free Press, 1960, chap. VIII.

33. E.g. see H. Janne, *Le système social*, Presse Universitaire de Bruxelles, 1968, pp. 337 and ff.

34. See below, section 7.12.

35. Besides the authors more directly committed to the systems approach there are many who commonly employ the basic terminology in the analysis of peculiarly social phenomena. A recent overview of the status of GST in sociology can be found in the special issue of the "Revue Française de Sociologie", 1970-1971.

36. A. Etzioni, 1968; pp. 120, 121.

37. A. Etzioni, *The Epigenesis of political communities at the international level*, in "American Journal of Sociology", 68, 1963.

38. The theme is amply discussed by H. Dorion, *La frontière Québec-Terrebonne*, Québec 1963, pp. 160 ff. Among the political geographers who have attached this "dangerous" concept he cites Broek, Jones, Hartshorne, Weigert, Whitesley, Seiner, Maul; but also early classics like Ratzel held a sophisticated critical attitude towards it.

39. For a classical example of such views, see H.J. Morgenthau, *Politics among Nations*, Knopf, New York, 1966 (1948) p. 107.

40. One of the famous bearers of the "separation" theory is Quincy Wright, *A Study of War*, Univ. of Chicago Press, 1965 (1942).

41. On the distinction between "negative" and "positive" peace, see the works of J. Galtung and the proceedings of the IPRA conference of Karlovy Vary; e.g. the paper by Kenneth Boulding, *The Philosophy of Peace Research*, Proceedings of the IPRA III conference, Van Gorcum, Assen 1970, v. 1.

42. On the concept of "Ecological destiny", see F. Demarchi, *Sociologia di una regione alpina*, Il Mulino, Bologna, 1968.

43. L.W. Lyde, *Some Frontiers of Tomorrow: an Aspiration for Europe*, Black, London, 1915. His theories have been resumed in 1944 by Roderick Peattie, *Look to the Frontiers*, Harper, New York. Quite recently the same idea has been advanced by Kevin Lynch, *The Possible City*, in William R. Ewald jr. (ed), *Environment and policy - the next fifty years*, Indiana Univ. Press, 1968.

44. The floods of literature and statements on the subject make precise references difficult. The Stockholm conference, the M.I.T. study on the "limits of growth" and the Ehrlich book on *Population, resources, environment: issues in human ecology*, Freeman, San Francisco, 1970, seem to stand as some of the main landmarks.

45. One of the foremost prophets of the "natural" and (almost) inevitable evolution of mankind towards unity, under the drive of science and technology, is Teilhard de Chardin. For a discussion of his views on international relations see Robert Bosc, *Sociologie de la Paix*, Spes, Paris, 1965. Since man's travel into space, of course, the idea has been widely spread. A prominent "lay" technology worshipper is, of course, Buckminster Fuller.

46. This position has been long held by the marxists, and is now increasingly accepted by technocrats themselves; for an extensively argued defense of this position see Hasan Ozbekhan, *Towards a General Theory of Planning*, in Erich Jantsch (ed) *Perspectives of Planning: Proceedings of the Bellagio Conference* OCSE, Paris, 1968.

47. Cf. Ozbekhan, 1968.

48. For a good review of such problems see R.T. Daland, *Comparative Urban research*, Sage publ., Beverly Hills, 1969; also, Franco Ferraresi, *Riforma dell'amministrazione locale, comunità, sistema sociale: riflessioni sull'uso di alcuni concetti sociologici*, in Studi di Sociologia, vol. X, n. 1, (gen.-marzo 1972). This study widely employs the concept of boundary.

49. D. Senior, *The Regional City*, London 1966.

50. Philip E. Jacob and James V. Toscano (eds), *The integration of Political Communities*, Philadelphia, Lipincott, 1963; for a review of these studies, see Oliver P. Williams, *Life-style values and political decentralization in metropolitan areas*, in Terry N. Clark (ed), *Community structure and decision making: comparative analyses*, Chandler, San Francisco, 1968.

51. On the political and ethical role of the environmental planner, see the works of Lewis Mumford, Buckminster Fuller, Costantino Doxiadis; also the recent *Cities on the Move*, by Arnold Toynbee (London 1970). Some early remarks on the subject appeared in the now classic *Man's Role in*

Changing the Face of the Earth, Univ. of Chicago Press, 1956; edited by W.L. Thomas Jr., with Carl O. Sauer, Marston Bates and Lewis Mumford. The thesis is also forcefully advanced by Charles Abrams, Kevin Lynch and other contributors to *Environment and Policy, the next fifty years*, cit.

See, e.g. the composition of the Emergence World Council and of similar bodies. The "Bulletin of Peace Proposals" features a regular section on the "peace proposals" linked with cooperation in the field of environmental planning. Teilhard de Chardin's views on the matter have been just mentioned: see note 45. Quite peculiar is the case of Walter Isard, founding father and leading personality of Regional Science, who is also the leader of the Peace Research Association (International). The two fields of activity seem to find in Isard more a "personal union" than a substantive integration.

Lewis Mumford, *The Pentagon of Power*, Secker and Warburg, London, 1969 (1964).

The systems approach is fast conquering the field of planning: since Melville C. Branch's entry in Harvey S. Perloff's collection, *Planning and the Urban Community*, Univ. of Pittsburgh Press, 1961, planning textbooks featuring "a systems approach" have multiplied. See, e.g., Brian McLoughlin, *Urban and Regional Planning, a Systems Approach*, Faber, London 1969, and George Chadwick, *A Systems View of Planning*, Pergamon, Oxford, 1971.

See, e.g., Antonio Truyol y Serra, *Las Fronteras y las Marcas*, Instituto Francisco de Victoria, Madrid, 1957. Classic is the work of P.G. de Lapradelle, *La frontière, étude du droit international*; Paris 1928. The most recent is *The International Regulation of Border Disputes*, by Evan Luard (ed), Praeger, New York, 1970.

F. Ratzel, *Politische Geographie*, Berlin 1897.

A list of such studies, up to the fifties, can be found in the work of Dorion, 1963.

E. Migliorini, *La terra e gli Stati*, Napoli, Liguori, 1945; H.W. Weigert et al., *Principles of Political Geography*, Appleton-Century-Crofts, New York, 1957. Many other references can be found in Dorion, cit., in Valussi, *Il Confine Nord-Orientale d'Italia*, Lint, Trieste, 1972, in the vol. 53, n. 3 of the "Annals of the Association of American Geographers" (Sept. 1963), in J.R.V. Prescott, *The Geography of Frontiers and Boundaries*, London, 1965, in N. Pounds, *Political Geography*, New York, 1963.

The "Geopolitical" tradition is epitomized in K. Haushofer, *Grenze in ihre Geographischen und Politischen Bedeutung*, Heidelberg, 1939.

R. Aron, *Paix et Guerre entre les nations*, Calman Levy, Paris, 1962. The "Ecological" approach to international politics, such as Harold and Margaret Sprout's, does look like a refined evolution of the geopolitical tradition. See also the revival attempted by W.A. Douglas Jackson and Maryn S. Samuels (eds), *Politics and Geographic Relations: Toward a New Focus*, Prentice Hall, Englewood Cliffs, 1972.

See his general introduction, *An outline of the social system*, to the Parsons-Shils-Naegele-Pitts anthology, *Theories of Societies*, The Free Press, New York, 1961.

S.J. Surace, *Per una sociologia delle frontiere: il caso Stati Uniti-Messico*, in "Rassegna Italiana di Sociologia", aprile-giugno, 1969. See also the study by W.J. Rose, *The Sociology of Frontiers*, in "The Sociological Review", vol. XXVII, 1935, pp. 201-219.

Feliks Gross, *World Politics and Tension Areas*, New York Univ. Press, 1966; id., *Independence and interdependence and the field of the Sociology of International Relations*, in "Proceedings of the XXII Congress of the IIS", Rome 1969.

See the documents of the Program for Non-Western Studies, University of Vermont, *Territorial Frontiers in Islam* (1960), *India's Boundaries* (1961) and *China's South Seas Boundaries: a cultural problem* (1961) (Mimeo).

Robert C. Angell, *Peace on the March: Transnational Participation* Van Nostrand, New York, 1969. Amintor Etzioni, *The Active Society*, The Free Press, New York, 1968.

See Max Weber, *The Theory of Social and Political Organization*, Oxford University Press, 1947, pp. 139 ff. The matter is discussed in H. Aldrich, *Organizational Boundaries and Inter-organizational Conflict*, in "Human Relations", vol. 24, n. 4, Aug. 1971. Weber's view on the basic distinction between inside and outside, territory and boundary as main categories of political action, are discussed by J. Freund, *La sociologia di Max Weber*, Il Saggiatore, Milano, 1969, p. 220.

M.J. Spykman, *The Social Theory of Georg Simmel*, Russel and Russel, New York, 1964.

M. Olsen (ed), *Power in Societies*, The Free Press, New York, 1970.

J.S. Coleman, *Social Inventions*, in "Social Forces", vol. 49, n. 2, Dec. 1970. It has been pointed out

that this evolution toward a "functional" and "vertical" organization of society was quite clear in Durkheim's theory.

71. Karl W. Deutsch, *Nationalism and Communications. An Inquiry into the Foundations of Nationality*, M.I.T. Press, 1953; *Political Community at the International Level, problems of definition and measurement*. Archeon books, Hamden 1970. See also his entry in Philip E. Jacob and James Toscano (eds), *The Integration of Political Communities*, Lippincott, New York, 1964.

72. David J. Singer, *A General System Taxonomy for Political Science*, General Learning Press, New York, 1972.

73. Bruce Russett, *International Regions in the International System*, Rand McNally, 1967.

74. Communications at the "Workshop on social indicators", Lausanne, Aug. 1971.

75. Richard Rose and Derek Urwin, *Territorial Differentiation and Political Unity in Western Nations. A Preliminary Analysis*, Lausanne, 1971 (Mimeo).

76. Harold and Margaret Sprout, *Environmental Factors in the Study of International Politics*, "Journal of Conflict Resolution", 1, 1957. See also their most recent work, *Toward a Politics of the Planet Earth*, Van Nostrand Reinhold, New York, 1971.

77. Kenneth E. Boulding, *Conflict and Defense*, New York, Harper, 1962.

78. John H. Herz, *Rise and demise of the Territorial State*, in James D. Rosenau (ed), *International Politics and Foreign Policy*, The Free Press, New York, 1961.

79. Walker Connor, *Myths of Hemispheric, Continental, Regional and State Unity*, in "Political Science Quarterly", LXXXIV, 4, Dec. 1969.

80. In the thirties Karl Schmitt employed Freudian concepts in his political theory, founded on the concept of the "Enemy", the malevolent other. See *Der Begriff des Politischen*, Munich 1932. But in general deep psychology, as the Germans call it, has not, to our knowledge, employed the concept of boundary as an analytical tool. Nikolaus Sombart's entry in this book however seems to demonstrate the promises and fruitfulness of its utilization.

81. J. Ruesch, *Analysis of Various Types of Boundaries*, in R.R. Grinker (ed), *Toward a unified Theory of Human Behavior*, Basic Books, New York, 1956.

82. D.T. Campbell, *Common Fate, Similarity and other indices of the status of aggregates of persons as social entities*, in "Behavioral Science", 3, 1958.

83. Kurt Lewin, *Frontiers in Group Dynamics*, in D. Cartwright (ed), *Field Theory in Social Science*, Harper and Row, New York, 1948.

84. These elaborations on the observations of many serious scientists like Lorenz, Tinbergen, Fraser Darling, etc. are due to the famous popularizer of ethology, Robert Ardrey, in *The Territorial Imperative*, Atheneum, New York, 1966.

85. Edward T. Hall, *The Hidden Dimension*, Doubleday and Co., New York, 1966. A more formal and experimental treatment of similar themes is to be found in Robert Sommer, *Personal Space, The Behavioral Bases of Design*, Prentice Hall, Englewood Cliffs, 1969.

86. Abel Miroglio, *Réflexions sur l'importance des frontières des États et des Ethnies*, in V.V.A.A., *Kontakte und Grenzen*, Göttingen, Schwartz, 1969. He has treated the same matter also elsewhere.

87. Frederick Barth (ed), *Ethnic Groups and Boundaries: the Social Organization of Culture Difference*, Oslo, Universitetsforlaget, 1969.

88. T. Dobzhansky, *Mankind Evolving*, Yale Univ. Press, 1967. See also G. Lenski, *Human Societies, A Macrolevel Introduction to Sociology*, New York, 1970, McGraw-Hill, Inc.

89. Karl von Clausewitz, *Vom Kriege*, Berlin, 1832.

90. T. Schelling, *Arms and Influence*, Yale Univ. Press, 1966.

91. O. Lattimore, *Studies in Frontier History*, Mouton, Paris - The Hague, 1962. Among other studies of the several aspects of a single frontier, see David Shears, *The Ugly Frontier*, Chatto and Windus, London, 1970, on the frontier between the two Germanies; Ram Pahlul, *The Himalayan Borderland*, Vikash Publications, Delhi, 1970.

92. See Carl Gösta Widstrand (ed), *African Boundary Problems*, The Scandinavian Institute of African Studies, Uppsala 1969; Ian Brownlie, *Boundaries of Africa*, 1972.

93. Besides the entry in this book, other writings by Sven Tiggil on the subject include the theoretical essay, *The Study of Boundaries and Boundary Disputes* in the above mentioned anthology, and *Staat und Nationsgrenzen als allgemeines Konfliktproblem*, in "Grenzfrüedenshefte", Husum, n. 4, 1971.

94. See also note 31, We can also remember here the work on "barriers" initiated by Torsten

- Hägerstrand, *Innovation Diffusion as a Spatial Process*, (with an appendix by Alan Pred), Chicago University Press, 1967.
95. Besides scattered references in the major work, *Ekistics, the science of human settlements*, Hutchinson, London, 1968, see C.A. Dosiadi, *Man's Movements and his settlements*, in "Ekistics", vol. 29, n. 174, May 1970; and the articles by John Papaiannou, *The term Community as used in the HUCO*, and by John Virakis, *Population density as determinant of resident's use of local centers: a dynamic model based on minimization of energy*, in "Ekistics", vol. 31, n. 187, June 1971.
96. Richard L. Morrill, *The Spatial Organization of Societies*, Duxbury Press, Belmont, California, 1972.
97. Jane Jacobs, *Life and Death of Great American Cities*, Random House, New York, 1961. Also Arthur L. Stinchcombe, *Constructing Social Theories*, Harcourt, Brace and World, New York 1968, is sensitive to the space variable in social life and has a chapter on problems of frontier and boundary.
98. Paolo Sica, *L'immagine della città da Sparta a Las Vegas*, Laterza, Bari, 1970, pp. 26 ff., 80 ff., quotes the studies of Rykswert, *The Idea of a Town*, in "Form voor Architectuur", 1963, n. 3, on the fundamental magic importance of the drawing of the city boundaries (remember the myth of Remus killed by brother Romulus because of his scorn of the just-traced furrow), and Bachofen on the magic meanings attached to city walls. These interpretations however seem to overemphasize somewhat the symbolic aspects over the functional ones.
99. Jay W. Forrester, *Urban Dynamics*, M.I.T. Press, 1969, suggests that the boundary between system and environment is the line dividing the elements whose relationships are structured in feedback loops from those whose relationships are unidirectional (p. 17).
100. See Jack P. Gibbs, *Methods and Problems in the Delimitation of Urban Cities*, and other articles of the second chapter of Gibbs (ed), *Urban Research Methods*, Princeton, Van Nostrand, 1961.
101. R. Gendarme, *Les problèmes économiques des Régions frontalières Européennes*, in *Les Régions Frontalières à l'Heure du Marché Commun*, cit.
102. J. Galtung, *A Structural Theory of Imperialism*, in "Journal of Peace Research", n. 2, 1971. Most models by Galtung and his school include the center-periphery basic contradictions, and are aware of the spatial dimension. Galtungian concepts are utilized in a space-economics framework by Alejandro B. Roisman, *Strutturazione dello spazio in una società dipendente: il caso Latino-Americano* ("Community Development", XIX, n. 103-105) where the role of frontiers is explicitly taken into account.

Riassunto

Gli autori espongono e discutono otto proposizioni che costituiscono le idee-guida della Conferenza. La prima riguarda l'approccio ("sistemico" e "orientato alla pace") e gli scopi (teorici, metodologici ed etici) del convegno. La seconda proposizione riguarda il concetto-valore "apertura", che sembra la manifestazione di importanti tendenze della società moderna e che pone in particolare rilievo le funzioni dei confini dei sistemi. La terza evidenzia i principali aspetti innovativi dello studio dei confini, di cui questa conferenza è espressione, rispetto agli approcci tradizionali. Il quarto punto riguarda i rapporti tra lo studio dei confini, l'approccio sistemico e lo sviluppo della teoria sociologica, in particolare la sua "spazializzazione". Il quinto discute i rapporti reciproci tra ambiente

Résumé

Les auteurs exposent et soutiennent huit propositions qui constituent les idées-guides du Colloque. La première concerne l'approche ("systémique" et "orienté à la paix") et les buts (théoriques, méthodologiques et éthiques) du Colloque. La deuxième proposition concerne le concept-valeur d'"ouverture", qui paraît être la manifestation d'importantes tendances de la société moderne et qui met en évidence particulièrement les fonctions des limites et des frontières. La troisième proposition met en évidence les principaux aspects innovateurs de l'étude des limites, dont ce Colloque est une expression, par opposition aux approches traditionnelles. Le quatrième point concerne les rapports entre l'étude des limites, l'approche systémique et le développement de la théorie sociologique, et

fisico ed organizzazione sociale, evidenziando il ruolo della pianificazione ambientale nell'integrazione internazionale, e in particolare il ruolo d'avanguardia che può essere svolto dalle regioni di frontiera, intese come "cerniera" piuttosto che come "barriera". Il sesto afferma l'unità del "sistema mondiale" e ribadisce che tutti i confini, compresi le frontiere nazionali, sono confini ad esso interni; i problemi posti dalla loro esistenza dovrebbero essere affrontati con la razionalità comunemente impiegata dai pianificatori nella risoluzione dei problemi causati dai confini amministrativi all'interno degli Stati. Il settimo punto è una rapida scorsa attraverso la letteratura scientifica che, da numerosi punti di vista disciplinari, si è occupata di confini. Infine l'ottava proposizione riguarda i possibili temi di approfondimento e la definizione delle principali dimensioni che dovrebbero essere rilevate, se la "teoria dei confini" deve passare dalla fase speculativa alla fase di verifica empirica. Il saggio è corredato da larghezza di riferimenti bibliografici.

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tout particulièrement sa "spatialisation". Le quatrième discute les rapports réiproques entre milieu physique et l'organisation sociale, dont de l'évidence au rôle de l'aménagement du territoire dans l'intégration internationale et surtout rôle d'avant-garde que peuvent jouer les régions frontalières, conçues comme "charnière" plutôt que comme "barrière". La sixième proposition affirme l'unité du "système mondial" et insiste sur l'idée que toutes les limites, y compris les frontières nationales, sont des limites internes à ce système; les problèmes posés par leur existence devraient être abordés avec la rationalité communément employée par les planificateurs dans la résolution des problèmes causés par les frontières administratives à l'intérieur des états. Le septième point est un coup d'oeil rapide sur la littérature scientifique qui, selon des points de vue disciplinaires, s'est occupée de frontières. Enfin l'octième proposition concerne les thèmes à approfondir et la définition des principales dimensions à relever, si la "théorie des limites" doit passer de la phase spéculative à la phase de vérification empirique.

L'essai est accompagné de nombreuses références bibliographiques.