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**PROGRESS IN
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THINKING GLOBALLY AND ACTING LOCALLY: A STUDY OF ENVIRONMENTAL OPPOSITION TO GROWTH PROJECTS IN FRIULI (ITALY)

Raimondo Strassoldo

The purpose of this paper is to present to the world scientific community some case-studies in environmental sociology or social ecology (in one of the several meanings of this term). It proceeds from the assumption that general theory can only be extracted, by way of comparison, from local, empirical research; at the same time, empirical research can only have meaning if guided by some general, i.e., global theory. Given the practical difficulties in realizing systematic comparative research, at least in the subject matter of interest here, this task is trusted to the informal and perhaps haphazard workings of the collective sociological mind, to which these pages are addressed.

In the first section, the several meanings of the conceptual couples alluded to in the title (global and local, thinking and acting) are discussed, as they apply to the environmental problematic. It is maintained that they are not antinomies, but dialectical, mutually fundative and reinforcing relationships. Commitment to environmental values results from global thinking (nature as a system, the world as a single ecosystem) but can only be acted out, whether in scientific empirical research or in practical, civic application, in concrete, local settings.

In the second section, the particular local setting in which the author's experiences have taken place is briefly described, with reference to the spread of environmental culture and movements.

In the third section, three studies of very different nature, although all dealing with environmental affairs, are presented: a textbook intended for the basic education in ecology of students in social and political sciences; a participation study in a specific environmental opposition movement; and a social survey carried out in the framework of project for a natural park.

In the fourth section, a rather complex, systematic study of about 30 cases of environmental opposition of local communities to

growth projects, occurred between 1972 and 1983 in the region, is presented. The study involves documentary analysis, elite interviewing, mail questionnaires, expert's panels, and questionnaire surveys to the general population in a few communities.

Finally, in the fifth section, the results of such research is summarized in the form of 48 propositions.

I. THEORY, RESEARCH AND VALUE-COMMITMENT IN SOCIAL ECOLOGY

1. Global and Local

"Thinking globally and acting locally", a phrase apparently coined by René Dubos, has enjoyed a certain popularity in the environmental-futuristic subculture.¹ The opposition global-local is not, in itself, particularly new. It echoes illustrious ascendants, like the Hegelian whole-part, or *Zeitgeist-Volksgeist*, or the Parsonian universalistic-particularistic. The special charm of the phrase seem to lie in two sets of connotations (or denotations).

The first is the stress on the concretely spatial dimension. "Global" is not the indeterminate "universal"; it seems to refer more precisely to our Earth, the beautiful little planet everybody could see rising from the lunar horizon in July 1969. This image has been considered to be one of the most powerful sources of the "environmental revolution" usually dated that year. The global ecosystem fueled by sun and water, the thin film of life, the biosphere, became directly visible in the billowing white vapours, blue seas and brown-green land masses. The Earth was no longer a mere neutral support; it became a single, minute, fragile, intimate place with which people could identify, appropriate, and call home, the only home of man. It now became possible to talk of "global problems" and "global solutions" in a more sensible, intelligible way. One-world consciousness became an everyday experience to more and more people. Everybody could feel directly affected by the waste of natural resources or pollution occurring in any corner of the world. The idea of ecosystemic interdependence all over the world became commonplace.

At about the same time, many analysts have noted a resurgence of localism, the need to put down and cultivate roots, to rebuild the ties of community, to identify with a home, to grow local attachments. There are innumerable manifestations of this trend, and probably as many sources. The most general seems to be the dissatisfaction for "civilization"—the uniform, massified, bureaucratic, "rationalistic", industrial, urban, capitalist, consumerist society—quite a mixed bag of qualifications, admittedly, and the specifications of the causal ramifications throughout all this would bring us too far. Let us just note that localism—the quest for,

identification with and cultivation of a smaller place—can be seen as a higher-order need; and that it may be put in dialectical relation with globalism.² The identification with the whole world is psychologically very demanding; one needs a simpler, more familiar and intimate place to rest.³ But it can also be argued that both globalism and localism are expressions of dissatisfaction with that level of socio-territorial organization which relentlessly strives for the monopoly over our identity, life and feelings the "society", i.e. the Nation-State. To think globally means to overcome, at least ideally, the fragmentation of humankind by national boundaries; to think localistically means to revive the traditional local communities which national state and modern society have effaced. The global-local couple then refers also to a redistribution and re-equilibration of the focuses of social life, away from the present state monopoly.⁴

A second connotation of the couplet is non-spatial but rather, so to speak, functional. Global refers to the whole, to interconnectedness, to interdependence, to complexity; local to the part, the fragment, the simple. Global thinking is holistic, well-rounded, complete thinking; it is the capacity to conjure up all the possible ramifications of an event; it is the hallmark of profound, synthetic, intuitive thinking. On the other hand, action is always constrained and limited to a specific setting; one has to concentrate on a few, selected, critical points of leverage. It is necessary to keep in mind all the complexities of the global reality; but the opportunities and the means to act are usually bounded to a particular locale. There are obvious ethical and epistemological implications of this. The Good Lord does not require us to love anybody like ourselves; but just our "neighbours", the people we can actually reach. Charity begins at home. And the theories we figure about reality are always local, i.e. valid only within the setting from which they were abstracted.⁵

2. Thought and Action

René Dubos' dictum, in stressing the different normal spatial range of thought and action, does not exclude that many people can also act globally (while often, unfortunately, thinking locally): for instance, the leaders of great powers. There are also some people who can both think and act globally, and take decisions affecting the whole ecosystem. But the trust of his message is that anyone can learn, with a little effort, to think globally, because the noosphere is lightweight and easy to tap; and because, as Whitehead noted, theories are cheap. Information resources are widely scattered, while the energetic and material resources necessary for action are limited. Common people are usually only able to influence their immediate surrounding; they can contribute only partially and locally to the workings of the whole system. But contribute they can.

if their actions are guided by adequate global thinking. Dubos' is a democratic, if not even populist, message.

But the distinction between thought and action needs some reflection. Unless one subscribes to some dualistic ontology (*res cogitans/res extensa*, information/energy) thought and action cannot be regarded as categorical distinction but rather again, as extremes of a continuum. There is a continuum between the neutral activities that accompanies any life process, like the contraction of muscular cells, or the mechanical behaviour of everyday routines, and the concentrated, heightened, intense meditations of the philosopher or the mystic. Human life is an inextricable interplay of thinking and acting, knowing and doing. One thinks in order better to act, but also, sometimes, acts in order better to think (e.g. by acquiring better education or more information). The relationships between theory and praxis, understanding and changing reality, have long been analysed by philosophers. Highly theoretical books can become weapons in political struggles, while the simplest actions can contain worlds of theoretical wisdom.⁶

In the social sciences, such problems have been endlessly debated under a variety of headings. One is the contrast between pure theory and applied research, or between research and consulting or professional work. Another is the relationship between science and politics, or between theory and values. Another is the distinction between basic research and "instant-" or "action-" or "administrative" research; or between science and policy. Another is the contrast between "positivistic" "objective" "neutral" science and a "committed" "responsible" "dialectical" "historical" one. Still others emphasize the relationship between science as a job and as a "profession", or mission, or calling. In sociology the debate spills over on the epistemological and methodological realm, as different conceptions of the thought-action relationships entail the possibility of widely different research methods.

Here we cannot go beyond mentioning the above keywords. We only wanted to stress that in ecological matters, to which Dubos' addresses himself, (as in many other problem fields), thinking and acting, knowing and doing, theorising about reality and trying to change it, making research or making politics are not such neatly distinguishable activities. Life admits, or should not admit, of such simplistic antinomies. Life is a global process.

This amounts, of course, to a confession of "holistic" or "dialectical" (or existential or systemic or qualitative: the terms pointing to such a complex and fuzzy conception are certainly not wanting sociological approach). What we want to stress here is that such a conception is not inimical to a more formal, "rigorous", "positivistic"

The few protests over pollution and other environmental problems, in the fifties and sixties, were essentially conflicts over competing land uses and modes of resource exploitation; e.g. the struggle of a fishing community against a chemical plant polluting a coastal lagoon, or the attempt of the tourist industry to prevent the building of an oil refinery.

At the beginning of the seventies the international "environmental revolution" sent its shock waves in Friuli too. Planners working in and for the regional government began to insert the "conservation of ecological equilibria" and the "maintenance of a healthy environment" among the goals and values of public policies usually at the bottom as an after-thought; organizations like "Italia Nostra", traditionally focusing on the preservation of the cultural-architectonic heritage, put new emphasis on the environmental "goods".

These were essentially elitarian, and rather inconsequential, developments. The start of the "environmental revolution" as a grass-root phenomenon, capable of putting masses of people on the street, can be pinpointed to the struggle of the people of a tiny village, Lestans, against a new cement factory (partly financed with public, regional funds) which would blanket the surroundings, and the lungs, with white stone dust. The protest raged for weeks, led to the physical blockade of the plant (with night vigils, protest songs by the campfires, etc.), confrontations with the police, and the final victory: the factory was ordered to close down until efficient scrubbers had been installed. What was extraordinary was not the environmental aspect, but the fact that Friulian people, usually very prudent and law-abiding and submissive, had taken to the streets.

At about the same time (early seventies) a second start of the environmental consciousness in Friuli involved the protest over the exploitation of streams for the intensive breeding of trouts. Lower Friuli is blessed by an abundance of water, which some entrepreneurs in the fishery industry, coming from other regions, discovered as perfectly suitable for trout. In a few years the flood plains of lower Friuli were invaded by large, sometimes huge usually very ugly artificial basins, draining fresh water from the streams and giving it back polluted. The whole riverine environment, almost the only "wild" environment in the Friulian plains, was heavily damaged. The first to protest were the anglers; but then the rape of the rivers scandalized also "Italia Nostra", who staged a campaign, with photographic exhibitions in the provincial capital, petitions, etc. (1972). The local authorities awakened to the issue, and promoted a scientific study and a debate (1973). The environmental importance of the riverine environment was stressed as established, and the planners working on the Regional Master Plan designated such

areas as natural reserves or parks, while the spread of the fisheries was restrained. The episode is important because apparently for the first time purely environmental concerns had gained the upper hand against (fat) economic interests.

Ecological culture seemed to spread regularly if slowly in the following two years, even though no political movement had specialized in it: there was no organized 'green' party or movement at the time, to translate environmental concerns into political demands and pressure.

This growth was abruptly stopped in 1976, when a disastrous earthquake destroyed the heartland of Friuli, leaving over a thousand deads and 100,000 homeless, displaced persons. In the following years, all social, cultural, emotional and economic resources of the region were drained toward the reconstruction. Nature had shown her inimical face to man's world: these were no times for concerns over the conservation of natural environment, but for the restoration of the social, cultural, and architectonic environment.

Environmental movements started again since 1978, along patterns, we reckon, not dissimilar from the rest of Italy and of other similar countries. By this time, ecology had become a political issue, taken up by some of the movements issuing from the students' protests of 1968. It had largely permeated mass media and popular culture: it had found places in school programs and in the publishing industries. More and more people became exposed, in many ways and levels of intensity, to ecological messages. Environmental groups began to form also at the grassroots. The press became very responsive to facts concerning pollution, conservation, etc. Ecology had become a part of everyday civic culture and public opinion: in Friuli as everywhere else in modern society. Environmental movements had become a social phenomenon of noteworthy size, and thus a proper object for social research.

III. Socio-Ecological Research in Friuli

6. The Beginnings

The new discipline of environmental sociology does not yet exist in Italy¹³, although, of course, many sociologists are sympathetic toward environmental values and some ecological issues have found their way, more or less marginally, in some studies and research¹⁴. Also the more general "ecological approach" to sociology (human or social ecology) has attracted comparatively little attention and efforts.

The present writer seems to be one of the very few devoting himself, with some consistency, to such studies; and as most of his

field research has been done around home. Friuli is one of the few Italian regions to be the object of socio-ecological studies.

Environmental issues were first met in two early pieces of research (1970-72). In the first, the fine landscape of rolling hills at the feet of the Alps, not far from larger urban-industrial centres, seemed a resource, an amenity for suburban-type residential development, or for second houses. But some reservations on the overall ecological soundness of this pattern were spelled out.¹⁵ In the second, the extraordinary density of the military in Friuli (about one third of the Italian army in 2% of the national territory) was found to have, among many others, also some interesting consequences on landuse and the environment. What little wooded areas are left in the plains and in the eastern hills are often covers for military installations; and relatively large tracts of land along the major rivers are set aside as training grounds, and thus withdrawn from agricultural or urban developments. A couple of regional parks have been set up on the site of abandoned military installations. Of course, these ecological merits of the military are quite accidental: the fashion in which they treat their training grounds certainly cannot be called environment-friendly.¹⁶

In the meantime, the new ecological culture had fascinated the present writer: the possibility and opportunity of a distinctively sociological contribution to its growth motivated the study of the works of Lewis Mumford, Kenneth Boulding, T. Roszak, E.J. Mishan, J. McHale, R. Dubos, T. Dobzhanski, E. Morin, and the works of the Club of Rome people. In 1972, an "ecological manifesto" was published, in the form of a chapter delineating an ideal model of an ecologically sound regional society.¹⁷ In the subsequent years, every effort was put in the production of a university textbook aimed at exposing sociology students to the basic concepts of human ecology, in all the meanings of the term.¹⁸ In this case, the structuring of a theoretical framework went hand in hand with an educational, i.e., practical and political goal.

As this book was being written (summer 1976) the desk would slightly rock, from time to time, in the afterwaves of the May 6th earthquake (a new climax of seismic activity, almost as destructive as the first, occurred in mid-September). It was a reminder of the persisting basic importance of the physical environment in human affairs. It was imperative that also the sociological community contribute, in its own manner, to the mobilization of forces for the rehabilitation and reconstruction. In the following few years we pursued a programme of "sociology of disasters" which is largely grounded in a human-ecological theoretical framework.¹⁹

Almost in reaction to these psychologically rather demanding research efforts, a more ecologically oriented study was started.

abstract, intellectually more challenging but emotionally neutral field, namely the "sociology of space"; which can be defined as the study of the most abstract dimension of the environment.²⁰ Other side-projects regarded much more concrete dimensions, like energy and water.²¹

7. A Participant Observation Study: The Case of the Marshalling Yard

In 1980 such scholarly (and leisurely) pursuits were interrupted by a wholly different kind of sociological work, the author was asked to participate in a campaign against a huge (250 hectares) marshalling yard that the technostucture (railroad company and regional planners) had determined to build right his own hometown. At stake were the loss of a sizeable portion of rich agricultural land, the quality of life of surrounding residential areas through noise, lights, and visual pollution, and the general socio-economic and cultural status quo (through immigration of allegedly many hundred of railroad workers from other parts of the country). But the advantages of the structure in terms of growth had captured the enthusiastic assent of the local power elite: all political and economic forces were in favor, but for two tiny local political formation, a "Citizens' List" and the "Friulian Autonomists."

The chance to experience from the inside the workings of an environmental opposition movement, as well as to put sociological skills concretely at work in defence of the community quality of life, was readily accepted. The case turned out to be an important one on several accounts. First, it produced one of the first Environmental Impact studies ever held in Italy, and certainly the first one in which sociology was used. This was the outcome of a particularly favourable contingency²², which forced communal and regional authorities to commission a study group as suggested by the opposition, i.e., by the present writer, who took good care that a colleague of his was nominated. The committee analysed the several technical and physical aspects of the impact; the social-cultural ones were studied not only through the usual secondary sources, but also through a sample survey, of the "instant research" type. The Impact study had to be completed within three months. Its technical quality could not certainly be extraordinarily good, the conclusions were not clear-cut, but it certainly was an advance in the rationalization of the debate.

Second, it produced one of the first (apparently the second) referendum in a growth vs. environment controversy in Italy.²³ Italian legislation does not admit such referenda, but the opposition clamored for it, and the local government had to yield. Although void of legal value (and also of practical political meaning in the context

the polling was taken rather seriously both by the administration and by the people. It was organized mimicking all the formalities of the "real" ones, and about two-thirds of the electorate, over 5,000 people, went to cast their vote. It was more than a successful sociological and participatory exercise; it helped to solve the case, since the environmentalists had pledged to cease the opposition if the majority of the population would vote in favor of the yard (which it did, by 58 vs. 42%).

Third, it allowed a full display of the practical uses of sociology. Here there was "barefoot sociologists" advocating the claims of the environmentalist minority, organizing protest, writing a wide range of documents—from leaflets and placards to newspapers articles to lengthier analyses, participating to debates, sending motorcades of tractors through the streets, and otherwise acting as a social agitator, a firebrand of ecological bushfire. But on the other side there was "technical" sociologist, a member of an official study committee along with engineers, transport economists, and natural scientists; a sociologist whose task was to understand the reasons and the motives of the protest, and suggest the means to overcome it. The survey he conducted ($n=200$) was noteworthy for its speed from conception to final report, it took only two weeks. This was achieved mainly through the use of already existing, well-oiled research structures in the region, and the telescoping of the phases (the sampling was done simultaneously with the preparation of the questionnaire, and the questionnaires were controlled, coded, punched and fed into the already programmed computer as they came in, so that the first analyses were available within hours of the turning in of the last questionnaire). The survey had immediate and concrete practical effect; its results were fed back immediately into the decision-making process of the two parties. It showed that the community was split even on the marshalling yard issue, with a negligible majority for the contras (50.8%); and that the critical variable was the attitude toward the natural, rural environment. This encouraged the environmentalists to present themselves as the expression of the majority, the general will, and made them stress the environmental issues. The political establishment, which had tended to minimize the extent of the opposition and the importance of ecological arguments, had to reorganize its strategy, with tangible effects.²⁴

In the whole, the combined application of sociological skills (the "agitator" and the "technical" sociologists worked in close, although covert, co-operation) had remarkable effects on the events. The clamor of the protest was such, and the danger for the established planning procedures and political process was such, that in the council hall of the small community (ca. 12,000 p.) witnessed the

repeated visits not only of the Regional government, but also of Ministers from Rome. It was acknowledged that the yard constituted not (only) an opportunity for growth, but also a burden for the community and a degradation of the environment. According to this new socio-political definition of the situation, the township was given a series of ecological safeguards (among which the halving of the extent of the yard) and economic compensations (14 billion lire, about 10 million dollars).

It is not boasted here that all of this is to be imputed to the sociological intervention. The causal contribution of this factor, in comparison with others (e.g. the political equilibria in Town Hall, the attitude of the regional Government, etc.) is hard to assess; but it was not negligible.

It is also hard to say how much of this experience can be called a "participant observation" study, and how much it was straight forward civic participation, or, at best, a case of social work, or of professional counselling. Certainly the concrete, manifest goal—the shoving off of the undesired yard—was only one of the motivation of the sociologist's engagement. To test the potential of sociological skills and to further socio-ecological values and ideas was another. A third was the chance to promote civic participation to planning; a fourth, to introduce the principles of the Environmental Impact Assessment procedure, then almost unknown in Italy;²⁵ a fifth, to help make institutions learn. The "battle of the marshalling yard" was fought not so much for itself, but in the framework of a wider, longer-term strategy of promotion of socio-ecological culture in the region.²⁶

8. Social Research in the Service of Environmental Design: The Case of the Stella River Park

The strategy apparently worked. A few months after the eruption of the preceding case, another environmental opposition gathered not far away. The Internal Drainage Board (or water authority) disclosed a project for the "hydraulic management" of the most beautiful, and one of the few still "wild", rivers in the Friulian plain, the Stella. Knowing the ways of the Board, everybody interpreted it as yet another canalization project, and all the environmental forces of the region rushed on the warpath. Local authorities and the Regional government, mindful not to allow the explosion of a case like the one of the Yard, vetoed that part of the project and launched instead the planning of the natural reserve and park, as designated in the Regional Master Plan. After some difficulties, a planning commission started to work in 1983. A sociologist was part of the team—the same that had acted as the agitator in the preceding case, namely the present writer.

The main sociological problem here were the attitudes of the local population toward the proposed park. The Stella flows through an intensely farmed plain: in some stretches, the land is plowed right up to the edge of water. The park would entail the reconversion of many areas from agriculture to woods and meadows, and the conservation of the residual marshes. In a sense, the park could be defined as a sort of "growth project", oriented to the enhancement of nature and recreational potential; but still a project promoted by forces external to the local community. It could not take off without the consent of the local community, and especially of the farmers.

The main goal of the sociological research team was then to assess the "environmental dispositions" of the people. In order to suggest adequate ways and means to overcome the likely aversion, i.e., to help shape the project in such a way as to match it to the local needs. Other research themes were the present recreational uses of the area (fishing, hunting, boating, bathing, etc.) the perceptions of the flood hazard, the attitudes toward other specific problems of the area (e. g. fisheries), the attitudes toward tourist developments, and general attitudes toward environmental values.

The research was also conceived as an exercise in public participation to environmental planning; it was meant not only to extract informations from the interviewees, but also as an opportunity to give them information about the proposed park. It was suggested that the results of the research be fed back to the populations—along with the whole plan—in public presentations and debates, so as to raise public consciousness and knowledge of the project. Accordingly, the research was conceived in a three-stage design: (1) analysis of the attitudes at the "zero line" of the project; (2) feedback of findings; (3) re-analysis of the attitudes, after the information-participation exercise, by means of a replica of the initial survey.

So far (December 1987) only phase I has been carried out, partly because of delays in the drawing up of the physical plan, and partly because of the wariness of regional and local authorities (and of some naturalist members of the planning team) to disclose the plan, for fear of the uprising of the farming community.²⁷

Phase I was done in 1984. It comprised the usual interviews with experts, informants, and local elites: a survey on a random sample of 400 (N=ca 15,000) of the general population, and of 170 (N=ca 2000) farmers. Given the overall research design, the findings of this first phase are only descriptive: they would acquire more meaning by comparison across time (phase 3) or across space, with similar researches carried out elsewhere. It may be not without interest, however, to note that (1) environment and ecology are

firmly established in public, official culture: hardly anybody dares belittle them. How far this is only lip service, adhesion in principle, and how deep and effective are these environmental disposition is impossible to assess. But the fact is nevertheless meaningful. (2) Farmers (being also older and less educated) are less sympathetic to environmental values than the general public. (3) Farmers have a rational attitude toward their land: they are ready to cede it, for a just price, if needed for the park; but only if they can acquire other land, so as to be able to continue their farming operations. They do not envision changes in their way of life. (4) Specifically, the local population is by no means keen for tourist developments; they see the park as something right in itself (for nature, etc.) and not as a new resource base, a source of income and jobs. Ecology, not economy, is the rationale for the park. (5) The recreational use of the area is overwhelmingly a masculine affair.²⁸

IV. ENVIRONMENTAL OPPOSITION MOVEMENTS AGAINST GROWTH PROJECTS IN FRIULI: A SYSTEMATIC STUDY

9. The Subject-Matter

The involvement in the Marshalling Yard case had awakened the author's attention to the occurrence of similar cases all over the region. The earlier ones have already been mentioned: the cement pollution case, the poisoning of the lagoon, the proliferation of trout fisheries. In the mid-seventies, in neighbouring Trieste one of the most macroscopic case ever of opposition to a growth project had occurred. In the framework of an international agreement between Italy and Yugoslavia for the definitive settlement of the "Venezia Giulia" question a huge bi-national industrial zone in the karst plateau over Trieste was planned. A large part of the city immediately rose in protest; a petition of 65,000 citizens out of 250,000 against the project was collected in a few days; and impact study condemning it was drafted by the academic community; the enraged citizenry rallied under a new political formation, the "List for Trieste" (rapidly nicknamed "the Mellon" because of its logo) which at the next election drew more votes than any other party over 30 percent). The magnitude of this political dislocation—that after ten years still dominates Trieste local politics—persuaded all the supporters of the project (practically the whole former establishment, from "Italian" parties to trade unions to business circles) to drop it, more or less gradually. The Trieste case is peculiar in many ways. First, the city enjoys one of the highest standards of living in Italy, as an heritage of its past economic prosperity; but much of it comes from various forms of rents, pensions, etc. Trieste has no strong industrial tradition. Second, it has very high proportion of older people; it is an aged city. Third, it enjoys a rather high quality of life:

the site is rich in amenities. Fourth, it has suffered in many ways from ethnic-national conflict, and is extremely sensitive to such issues. The sudden and radical opposition to the industrial zone can be explained as the reaction of a community already living, in some respects, in a post-industrial age; a community that fears ethnic encroachments much more than it desires further economic development; and a community that puts a higher value on the conservation of the Karst landscape, and of the purity of air, than on industrial progress. The arguments against the Zone always weaved together the ethnic-national and the environmental aspect; but our impression is that the former was and is largely predominant.

The Trieste case has been reminded here not only because Trieste happen to be the capital of the administrative unit to which Friuli belongs, but also because the fabulous success of the anti-zone movement inspired, to some extent, other such initiatives in Friuli: this hold, for instance for the marshalling Yard case. The historical sequence of events is not mere succession: it sets relations. Later episodes learn from earlier ones, and grow upon them.

About 25 other cases of environmental opposition to growth projects could be counted in Friuli between the late seventies and early eighties. A flood control system over the river Tagliamento, which threatened some community while protecting others, is being held at bay by popular protest since many years. The project for a dam in Gorizia had to be completely redrawn under the pressure of environmental groups. Farmers have successfully opposed the building of new roads. Local communities throughout the region have successfully fought against the opening of new gravel pits. The canalization of streams raises growing protest. The systematic destruction of the traditional rural landscape to make way for fully mechanized, large-scale irrigated, monocultural agriculture ("rior-dino fondario") is meeting growing resistance, and it seems that the land management authorities now are going to accept some environmental restraints to their so far rather ruthless operations. Small mountain communities refuse to sell off to developers of the tourist industry. Chemical plants are targets of increasing vigilance and pressure against pollution. One of them was forced to shut down, after a prolonged struggle first in the streets and then in the courts, with a loss of 75 jobs. Two electric power plants, one hydraulic and one coal-burning, are being held at bay since many years by local community. In the second case, a full-scale environmental impact study has been conducted (no sociology involved) and a referendum held (95% against).

This is the general empirical field of the inquiry here presented. The ideal type of case comprises the following: (1) a Growth Project, or large physical capital investment (plant, road, dam, canal,

building complex, pit, etc.). (2) conceived by the public or private Technostructure (there is little difference between the two, in modern society) in the service of the wider economy. (3) to be localized in a Local Community. (4) where it causes conflict and opposition among several interest groups. (5) among which are the Environmentalist groups. (6) the conflict results in the cancellation of the project, in its modification or alteration to adapt to local needs, in various forms of compensation to the local community, or in the simple defeat of the opposition and realization of the project.

In fact, few of the studied cases conform to this complete model. In some cases the opposition is not to precise projects but to creeping environmental degradation, or to simple ideas. Often there is no intra-community conflict. Even more often, the outcome is lacking: many cases are being dragged for many years, and there is as yet no end in sight.

10. The Objectives

The study has two main objectives: (1) to provide a general model of the social process we have called Environmental Opposition Movement (EOM) how it starts, what are the dynamics, who are the actors, what are the conditions for success or failure, what are the motivations, the arguments and the ideology, etc. The underlying hypothesis is that there are normalisms and regularities in such events, and that the phenomenon is important enough as to warrant scientific analysis. (2) To illustrate the new social matrix in which planning for growth must operate. Growth projects are no longer unquestioningly accepted by the people; they can no longer be the private, technical affair of investors and engineers. The design professions must learn to take into account not only the physical environment in which the projects will be sited, but also the socio-cultural environment. Local mores and opinions must enter into the planner's calculations, just as local climate and geology. This means that the human science must be admitted among the design disciplines. This is the original meaning of the Environmental Impact Assessment procedures; largely lost in later applications.

There are then some secondary goals: (3) a survey of the environmental crisis points, possibly resulting in a descriptive documentation: (4) A study of the environmental dispositions of engineers and architects, and their attitudes toward protest movements.²⁹

11. Research Design, Methods and Techniques

The research design is rather complex. It comprises:

(a). *Formation of descriptive profiles of the cases.* The main sources for data is the press. One newspaper and half a dozen of

articles, concerning about 50 cases of environmental protest, have been collected. About 30 cases have been retained, as following into the "ideal type" sketched above. The information has been structured according to a number of conceptual categories: (1) spatial scope; (2) date and duration; (3) economic relevance; (4) number of people involved; (5) parties (actors); (6) forms of conflict; (7) intensity of conflict and of mobilization; (8) ecological relevance of the resources involved; (9) sequential (dynamic) structure of the event; (10) initiator of the case; (11) stance of the political forces; (12) outcome. Only in few cases however it has been possible to fill all these cells. Information from published sources has been supplemented by other means: written documents, inspection on the site, interviews with local experts and informants, etc. In a few cases, personal knowledge and participant observation have been the main sources.³⁰

(b) *Ranking of the cases in order of "importance"*. As the research design provides for the intensive, indepth study of some of the more relevant cases, it was necessary to find an objective criterion to select them. None of the above categories seemed to supply such a criterion. Thus it was decided to ask a panel of expert judges. About 150 such experts (engineers, architects, leaders of environmentalist groups, planners) were sent by mail a synthetic profile of about 30 cases, and were asked to score them according to three dimensions: environmental relevance, socio-economic-political relevance, level of conflictuality. 70 questionnaires returned complete. Accordingly, the 30 cases were ranked along each dimension, and an overall rank order was also formed. (The Trieste industrial zone and the Marshalling Yard cases received top scores).³¹

(c) *Sample survey of four communities in which the most important cases occurred*. The communities were also chosen for their structural similarities (1,400 to 5,000 residents, mostly active in secondary and tertiary sectors, but with strong rural flavour and setting) and also for the diversity of environmental hazard faced (a cement factory, a dam, a chemical plant, a highway interchange). In all cases, moreover the opposition has been successful: the cement factory had to clean its fumes, the dam project has been deeply modified and is very far from inspection (a next flood is probably needed in order to start it), the chemical plant had to close down, the road interchange has been suspended. In each community a statistically random sample of 100 has been extracted, and a questionnaire of about 30 questions and 80 variables has been administered. Age limits were 18-65, average 41 years; male and female subjects present in equal numbers. Topics of research included (1) general attitudes toward environmental problems, (2) environment-

related behaviours, (3) attitudes and behaviour related to the mobilization in general, (4) attitudes and behaviour related to participation in their own communities, (5) willingness to participate to such behaviours in the future. The survey took place in summer 1986.

(d) *Study of planners' attitudes toward environmental problems and environmental opposition movements in particular*. One aim of this study was to have the results of the preceding one evaluated and controlled by a technical and professional elite particularly competent in these matters: another, to study the environmental attitudes and dispositions of this elite in its own right. In view of the first objective, a short report of the four communities—study (about 8 pages with as many tables) was printed and sent by mail to a panel of about 50 planners and experts. In fact however it was found that the subjects' willingness to study and comment on it was too low; thus the research was re-orientated wholly towards the second objective. The target is to reach a large majority of the planning profession in the region: about one-third architects, one-third engineers, one-third miscellaneous (geologists, forestry people); some in public offices, some private professionals. The target number is 120; by October 1987, 70 interviews had been completed and analyzed. The data presented here come from this subsample, but we are confident that the final results will not be very different. The interviews were based on a questionnaire in part identical with the one used in the communities study; in part original, and dealing with specific problems of the planning profession in the face of environmental mobilization. The interviewee was also encouraged to express himself freely, as the interview was tape-recorded. Thus this study can be characterised as based on a mixed techniques, structured questionnaire and free, qualitative, "elite" interview. This latter material, however, has not yet been analysed.

The overall project is due for completion in the early months of 1988. A certain expectation for its results has been already mounting up in the circles concerned with environment and planning in the region: as we took good care to circulate the data, as soon as they became available, both in published articles and public conferences and by private mail. In line with the general approach presented in the first part of this paper, this research is marked by a strong dialectical, feed-back, action-oriented intention: the aim is not only to describe and understand environmental opposition movements, but also to contribute to the transformation of planning practices in a more environmentally sound direction. A more latent aim is to emphasize the potential contribution of social science to the understanding of environmental and planning problems to demonstrate the essentially social and therefore sociological nature both of the environmental opposition movements and of the planning proc-

esses; to approximate the ideal of a more participated and environment-friendly planning practice; to help professionals to design not only with nature but also with society; and to help local communities to raise their consciousness and their pride in the defense of their environment.³²

To what extent these research objectives are going to be fulfilled, is a matter for medium to long-term forecasting. The present signals are contradictory; but there is no dearth of encouraging ones.³³

V. FINDINGS

In sociology, even more than in other sciences, research findings are always preliminary and provisional; every piece of research can only result in hypothetical propositions, to be tested in further research.

In the following pages we present a few scores of such propositions, resulting (a) from the studies described in paragraphs 7 - 11 / (b) (participant observation, planning, and documentary-qualitative studies); (b) from the four-communities survey, and (c) from the planners' study.

1.2. Findings from the qualitative, Background Studies

(1) Environmental opposition movements (EOMs) are a composite phenomenon. The main components are: (a) landowning interests adversely affected by proposed growth projects; (b) political organizations that have introduced environmental values at the core of their programs; (c) social strata inclined more to the *status quo* (conservatism) than to the nuisances of growth; (d) pure environmental groups (nature-lovers, conservationists); (e) miscellaneous interests, according to the specific case. The relative weight of each of this component varies from case to case.

(2) Environmental values are firmly established in civic culture and in public opinion. Almost everybody declares himself in favour of environmental protection. Environmental issues have acquired a prominent position in the press and in mass media. In Friuli, there has been an exponential growth of press space dedicated to them since 1978.

(3) The size or quantitative weight of EOMs is hard to measure. They may range from a small group very active in "socially constructing" the case through press releases and lobbying, to mass movements involving whole communities; from a few day's commitment to many years of trench warfare. No single indicator is satisfactory.

(4) The EOMs express themselves essentially on the communal level: communiques, debates, press campaigns, paper wars

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on the walls, rallies, petitions, demonstrations. In Friuli there have been few manifestations of a more physical/energetic nature (marches, blockades sit ins), very little violence against property (e.g. the cutting down of bird-catching installations) and no reported violence against persons.

(5) The relationship between the purely environmental and the political components are variable. In some cases the EOM is initiated by the former, and then supported and amplified by the latter; in others the latter play a role from the beginning.

(6) The political formations more active in environmental campaigns are the "new left" (Radical Party, Proletarian Democracy) and the Friulian Autonomist party (Movimento Friuli). Together, they amount to about 5% of the electorate. The larger Communist party (ca 28%) has massively entered the field since about 1980. The parties of the governmental coalition, which enjoy a comfortable majority in Friuli, are usually on the defensive, and act as the responsible bearers of the growth ethic. They have long tended to define EOMs as just political (leftist) front organizations, ideological subversion, "irrational" attitudes of butterfly-catchers, economic vested interest, or "blind localism". In the last few years, however, there has been a dawning of ecological consciousness also within majority parties. Environment is becoming a non-partisan issue.

(7) In the case of the new left, environmentalism is an original component ("Flowers Children," The Greening of Youth, the Silent Revolution, etc.) In the case of the Movimento Friuli, it is an early addition. Movimento Friuli is itself a rather composite movement, with strong New Left leanings. But the defense of ethnic identity includes not only the defense of local language, culture, ways of life, architectural patterns etc, but also, logically, the preservation of the ethnic landscape, territory, and environment. In Friuli as elsewhere, the resurgence of ethnic regionalism is closely coupled with the rise of environmental values; both are forms of the new localism.

(8) Institutions learn from EOMs, and change to adapt to their claims. Local authorities often put themselves at the head of protest, even against the instructions from their "centres". Public administrations are providing themselves with the competences and instruments necessary to deal with ecological issues, and to prevent, rationalize and canalize environmental protest.

(9) Farmers, especially small farmers, are often at the forefront of protest against environmental damages and nuisances issuing from other economic sectors (industry, transportation, etc.). But the defence of agriculture land of and is by no means tantamount as defense of environment. Farmers as a profession and trade are no

mental dispositions are weaker than those of the general public.

(10) Hunters and anglers, though often destructive of a particular element of the environment, namely game and wildlife, have a strong interest in the preservation of the environmental conditions favourable to their exercises. They are sometime one of the more powerful, or vocal, components of EOMs.

Pure environmental forces, like the WWF and such, should try to ally themselves with the hunters and anglers massive organizations, at least tactically, instead of attacking them frontally.

(11) Many EOMs concern the conservation of water bodies. Water is one of the element that more easily triggers defense reactions.

(12) Growth projects are easy to kill in their embryonic stages. As they grow, they get heavy with economic interests (contractors, etc.) with legal obligations, and with political commitments. Even if they are shown to be ill-conceived, wasteful, dangerous, etc., they cannot easily be canceled, because to many important people would lose expectations and "face". Socio-political factors and inertia rule planning process more than strictly economic-technical and environmental factors.

(13) Public participation to planning has fallen completely out of fashion in the planners' subculture; but it is proceeding in fact, as the politicians more and more learn to mediate between the affected populations and the planners. The mutual adaptation between the project and the recipient population occurs after the project has been completed, and entails delays, frictions, rising costs, conflicts. It would seem more rational to insert the mutual adaptation phase within the planning process, e.g. by means of the Environmental Impact Assessment procedure.

(14) Environmental values have become an important and established element of civic, political culture and of public opinion because they respond to higher needs (of identity and identification, of health, of security of aesthetic quality, etc.) that emerge after the lower ones have been satisfied. Friuli, as the rest of modern society, has reached a level of economic affluence in which basic needs have been fulfilled, and those concerning the "quality of life" are now at the centre of attention and consciousness.

(15) Environmental issues also arise over alternative use of ever scarcer environmental resources. Friuli is a densely populated, highly anthropized region. The pressure for competitive use (agricultural, recreational, naturalistic) of the minuscule islands of nature is strong. The polluting effects of growth projects are easily perceived by many people. There is a relation between the relative

scarcity of environmental resources, the density of the population, its level of live (industrialization) and the strength of EOMs.

(16) EOMs learn from each other: there are various sorts of feedback loops between them. Every single EOM is a specific, local expression of a general universal EOM, embracing the whole of (modern) society.

(17) Environmental values are spreading, but perhaps at a slower rate than the destruction of the environment by the still dominant growth ethic. It is foreseeable that environmentalism will conquer when there will be almost no natural environment left, at least in places like Friuli. It will be necessary then not to preserve, but to restore and recreate the environment.

(18) Public authorities are more ready to adopt conservation policies if the environmental resources can be exploited economically, especially by the tourist industry. Regional parks and such projects are, in a sense, "growth projects" themselves. Conservation for the sake of purely naturalistic values has a much weaker political appeal.

(19) Opposition against growth projects is sometimes motivated not by authentic environmental values, but by hope of speculative gains. The trend of supporters of growth projects (usually, higher authorities) to "buy out" local opposition by money grants to the community—a form of official graft—has made it convenient, for many local authorities, to raise opposition on allegedly environmental grounds, again any growth projects.

(20) Environmentalism is an ethic, and as in all ethics, practices do not always conform to principles. There is a wide gap between public adherence to environmental values, and real behaviour, specially when personal convenience and interests are at stake. However, the growth of environmental ethic in public culture is meaningful in itself.

(21) The spread of EOMs does not seem to be affected by economic stagnation and crisis. While environmentalism can be explained also as a consequence of affluence, it acquires a socio-cultural life of its own largely unaffected by the vicissitudes of economic cycles. The quest for a better environment is not seen as alternative or competitive to the search for full employment or higher growth rates. On the contrary, the improvement of the environment is often considered as a source of new jobs, investments and growth.

(22) The more powerful, resourceful and flexible technological solutions, are the more relevant the human and cultural factors in planning become. When only one solution was the technically

"right" and "rational", the engineer could have his way. When many are possible, the ultimate choice goes the public (politician, people), and public preferences become a variable in calculations.

(23) Some EOMs are motivated not so much by the defense of local environmental values as by hostility in principle against the "System", or Big State, Big Business, Big Technology, Capitalism external intrusion into the affairs of the local community, centralization, etc.; i.e. they are ideologically motivated. This aspect seems however of minor importance in Friuli. Hardly anybody thinks that EOMs can have subversive or revolutionary functions.

(24) EOMs are not pure movements; they are also organizations and therefore in a sense, institutions.

(25) EOMs can flourish in societies where there is a sufficient degree of liberty and democracy: where people have access to information and have the means to spread them; where there is freedom of association, and where people need not fear immediate economic, political or legal retaliation for their protest

Findings from the Four-Communities Study

(26) More than 88% declare themselves "very much" in favour of environmental preservation. Another 9% are "rather" in favour.

(27) Most people think that environmental movements arise because of real environmental decay; less common is the opinion that they are due to rising levels of well-being, education, aspirations, sensitivity. Very few think they are front-organizations for other political or economic interests, or a passing fad.

(28) Most people think that nature should be preserved for anthropocentre reasons (health and survival of mankind), less for transcendental ones (respect for God's and Nature's works). Also widespread is the idea that landscape should be preserved because it embodies the history, culture and identity of a community. There is less agreement on the economic-utilitarian reasons for the protection of environment (recreation industry).

(29) Almost 90% of people think that modern agriculture damages the environment, especially by polluting the waters; lower percentages point also to the canalization of rural landscape and even lower ones to changes in local climate.

(30) Most people (56%) think that regional politicians have little or no sensitivity for environmental issues. Local (township) politicians are given slightly higher ratings.

(31) According to public opinion, the culprits for environmental decay are: manufacturers, politicians, technicians and ordinary citizens, in that order.

(32) In the four communities studied, there is a nearly unanimous sympathy for environmental opposition movements, as an expression of citizens' participation to public decision making. Very few people think that such movements are an expression of narrow-minded municipalism ("campanilismo"), of vested local-private interests, or of political subversion.

(33) About a third of the sampled people declare to have actively participated, in some way, to the EOM in their community. In the majority of cases (20%) this means attending to public meetings on the issue; in 10% of cases, also involvement in demonstrations, protest marches, etc.

(34) A large majority (81%) does not think that the promoters of the EOM have exaggerated or distorted the issue.

(35) About two-third of people think that the local (municipal) authorities behaved in a sensible and effective way in the circumstances.

(36) In three of the communities, the EOM is perceived as having involved the whole of the community; in the third one, only a section of it (the farmers). This in fact confirms what is known from other, documentary sources.

(37) Credit for the positive solution of the case (by those who so believe, who are a small minority in three communities, and almost the totality in the fourth.

(38) In one community, there is a majority (62%) opinion that the problem has been definitely solved; in the other three, the opposite is the case. Those who think that the case has been positively solved, tend to give the credit to external forces (experts, authorities, and especially environmental organizations and groups); less to local community leaders, either informal or "charismatic" or institutional.

(39) More than two-thirds of the sample think that citizens' direct mobilization in the defense of environment is right and normal; and the same percentage declares itself ready to personally participate in such activities.

(40) There are only very small variations on the opinion and attitude a due to gender. Gender is less and less a discriminating variable, in advanced societies, in this kind of data.

(41) Age discriminates a little more, but in a complex, probably nonlinear way. It is proposed that there are two distinct types of attitudes toward the environment: one issuing from traditional, rural culture and experience (the memory of a cleaner, quieter, healthier, authentic life-environment; but also a more utilitarian view of nature), and the second issuing from modern culture, formal

education, and mass-media. The first is present specially in older age-groups, the second in the younger ones. These two environmental cultures mix with often contradictory and usually fuzzy results. In general, both the younger and older generations are more environmental-minded than the middle one.

(42) Education correlates positively with environmental attitudes and behaviours. Better educated (and younger) people stress the anthropocentric, rather than transcendental or historical, reasons for environmental preservation; are more severe in imputing to politicians and manufacturers the responsibility for environmental degradation; have participated more to the community mobilization in defense of the local environment, give more positive judgments of such activities, complain, more about the lack of information on such issues, and, which seems most important of all, are distinctively readier to involve themselves in such movements in the future, if needed.

Findings from the Planners' Study

(43) There is a surprising (to the present author) level of commonality between the general population of the four communities and the region-wide group of planning experts, in regard to most environmental opinions and attitudes.

(44) Planners tend to stress, among the reasons of environmental movements, the rise in the level of education sensitivity etc. more than the sinking of environmental quality; the rank given to the other items is the same as in the population study.

(45) Planners share less the "transcendental" and the "utilitarian" motivation for the preservation of natural environment. It seems that technicians are more secularized not only with respect to traditional religion, but also to the more modern "religion of progress".

(46) Technicians are slightly more severe than the general population in their judgment of the environmental dispositions of politicians.

(47) In general planners find difficulty in pinpointing the responsibility of environmental decay to any one social category (manufacturers, politicians, citizens, builders). They tend to have a more "holistic", systemic view of society, and stress the interdependencies and dialectical linkages among all the parties considered.

(48) Planners agree even more than the population that citizens' mobilisation in favour of the environment is an expression of cultural advancement and democratic maturity; but they also stress, more than the population, that environmental problems

should be solved by institutional processes and authorities, more than by grass-root mobilization.

In the planners' study, several other topics were dealt with (1) knowledge of and attitudes toward the Environmental Impact Assessment procedure; (2) attitudes toward the nuclear power plants issue, with reference to Chernobyl and the then forthcoming Italian national referendum on the issue; (3) role of university education of planners in shaping environmental consciousness and competence which are of less relevance in the present context.

13. Conclusions

This paper has already been dragged too long and the patient reader has been given ample time to form his own conclusions. It should be rather clear that the research presented here proceeds from a view of social science which, while upholding the value of empirical research and theory-building, does not overlook the practical, social uses of research. In fact, the emphasis here is on the latter: Science in the service of values; in this case, environmental values. Of course, when we say science, we mean an endeavour that is as honest, rigorous, empirically founded and logically reasoned as possible, under the circumstances.

A study is never completed, only suspended, once said R.K. Merton. The present statement is not final: the research is going on, in several directions. On the practical, local side, there is a continuing involvement in ecological opposition movements and in the spread of environmental culture in the institutions; on the theoretical, universal side, there will be an attempt to compare the Friulian case presented here with experiences and studies carried on in other parts of the world. This very paper is a beginning of this comparative, more theoretical phase of the study, since its purpose is to raise the awareness of colleagues in the wider world for our subject-matter, and possibly to provoke comparisons and debate.

Empirical research on the Friuli case has been to some extent stimulated and illuminated by general, theoretical ideas gleaned from the *Weltgeist*, from global culture; and specifically, from the view of our world as a single ecosystem, the common home of humankind, the only possible home. We hope that the research and life-experiences carried on in this minute corner of the world—our local actions—can be fed back to the *Weltgeist*, and be of some use the development of global ecosystemic thinking.

NOTES

1. One major international congress of futurologists (World Future Society) has been gathered under this slogan in Toronto, July 1980: "Through the 80s

2. C. Mongardini, *Contraddizioni nel mutamento sociale. Riflessioni sulla trasformazione ideologica dell'Europa contemporanea*, Trento 1985 (mimeo).
3. The literature on the "sense of place", territorialism, neo-localism, rootedness etc. has become rather large in recent years, specially among social geographers of the "humanist" or existential" persuasion (e.g. Anne Buttimer and Y-tu Tuan) but also among social psychologists of the "environmental" school (e.g. I. Altman J.F. Wohlwill, S. Wapner, etc.).
4. The relationship between State and Society, one of the basic problems of social and political thought, has been the object of renewed analysis in the last few years, by leading authorities, like A. Touraine and F. Tenbruck; see e.g. the latter's paper *Die Aufgaben der Kultursociologie*, in "Annali di Sociologia-Sociologisches Jahrbuch", 1. 1985. This has also been one pet topic of the present author; see e.g. R. Strassoldo, G. Dell'Zotti (eds.), *Cooperation and Conflict in Border Areas*, Angeli Milano, 1981.
5. This sounds blasphemous to ears used to the litmanes of classical science; but it seems more and more accepted also in the physical sciences. For the social ones, see e.g. P. Van Parijs, *Evolutionary Explanation in the Social Sciences*, Tavistock, London, 1981.
6. This is one of the basic tenets of Oriental wisdom that so fascinate the West from time to time: one of the later examples being the popularity of books such as Hermann Hesse's *Siddhartha* among the student counter-culture in the sixties and seventies (I am indebted to Dr. N. Tessarlin for pointing this out to me).
7. Such analyses have already been done by authors such as O.D. Duncan, *From Social System to Ecosystem*, "Sociological Inquiry", v. 31, n. 2, 1961; W. Catton, Jr., *Toward Prevention of Obsolescence in Sociology*, "Sociological Focus", v. 9, n. 1, 1977 and more recently by G. Lenski in "Environmental sociology", newsletter of the Section on Environmental Sociology of the ASA.
8. On Elgin and Mitchell's concept of "voluntary simplicity" see their article of the same title in "Eksistens", n. 269, v. 45, 1978.
9. E.O. Wilson, *The Drive to Discovery*, "Dialogue" v. 70, n. 4, 1985, p. 67.
10. A shorter presentation of the same set of research and commitments has been published in R. Strassoldo, *Micro-Macro: aspetti ecologici*, "Studi di Sociologia", n. 3-4, a. XXIV, 1986.
11. A slightly more extended portrait of Friuli, in English language, has been sketched by the present author in *Regionalism and Ethnicity—the Case of Friuli*, "International Political Science Review", 6, 2, 1985. See also R. Strassoldo *Friuli-Venezia a border region*, in VV. AA., *Regionalismus in Europa*, Internationales Institut für Nationalitätenrecht und Regionalismus, München, 1981.
12. This social-territorial model has recently enjoyed a wide fame in the international community of scholars thanks to M. Piore and C. Sabel's study, *The Second Industrial Divide*, Basic Books, New York, 1984.
13. A first meeting of scholars interested in environmental sociology is being organized, within, the "sociology of territory" research committee of the Italian Sociological Association, in January 1988.
14. The "ecological crisis" has been stressed as one of the causes of the general "legitimation crisis of late capitalist society" (J. Habermas) already in the early seventies also by Italian sociologists, very receptive to German thought. In this line, at least one study of German ecological opposition movement (the "greens") has been done by A. Tarozi, *Iniziativa nel sociale*, Angeli Milano 1982. Others have encountered environmental issues in statistical studies of "social indicators of quality of life" (Martimotti). Many general social

- surveys have sounded environmental attitudes and values of Italian people and tested the "silent revolution" hypothesis of R. Inglehart; e.g. G. Calvi, *L'evoluzione dei valori sociali e degli stili di vita degli italiani* (1978-1981), Eutisko, Florence, 1982.
15. R. Strassoldo, *La suburbanizzazione Della Collina Veneta e friulana*, Cedam Padova 1971, pp. 38-9, 47, 80, 93 ss..
16. R. Strassoldo, *Regional Development and National Defense: A Conflict of Values and Power in a Frontier Region in AA. VV., Boundaries and regions, explorations in the growth- and peace- potential of the peripheries*, Lint Trieste, 1977. The peculiar theme of the role of the military in environmental conservation (outside war theatres and battlegrounds, of course) has been the object of a conference of the English National Park Authorities in 1979. See also A. And M. MacEwen *National Parks, Conservation or Cosmetics?*, Allen and Unwin, London, etc. 1982, chapter "Two explosive issues".
17. R. Strassoldo, *Sviluppo regionale e difesa nazionale*, Lint Trieste, 1972, pp. 375-443.
18. R. Strassoldo, *Ambiente, Energia, potere, appunti di eco-sociologia*, Quaderni dell'Isig, 1, 1974; idem, *Sistema e ambiente, introduzione all'ecologia umana*, Angeli Milano, 1977.
19. R. Strassoldo, B. Cattarinussi (eds.), *Friuli, la prova del terremoto*, Angeli Milano 1978. Other studies, both empirical and theoretical, done by the disaster research group within the Institute of international sociology of Gorizia are more of a psycho-sociological approach. As is well known, there is a split, within the research field of disasters, between an ecological-geographical approach (White, Kates, Burton, Gelpi etc.) and a more "sociological" (psychological-organizational) one.
20. R. Strassoldo, *The Social Nature of Space: a conceptual framework* in B. Hamm (ed.) *The social nature of space*, Concept, New Delhi, 1988.
21. R. Strassoldo, *Energia e società*, in "Studi di Sociologia", XXI, 2, April-June 1983; R. Strassoldo, *Acqua e società, un saggio di ecologia umana*, Facoltà di Scienze politiche, Trieste 1985. Together with an earlier essay on the "sociology of territory" and of settlements, in A. Scivoletto, ed. *Sociologia del territorio, tra scienza e utopia*, and the abovementioned studies on space, (which can be identified with the void, i.e. air), these studies make up a sort of "sociology of the four elements".
22. The community lies between a "red area" of the region, where the Communist party has large majority, and the "white area", where the Christian Democrats dominate. The township is split about even between the two, and changes hand almost every municipal elections. Majorities are very unstable, and thus only one vote in town council can be decisive in tilting the administrations from the Communists to the Christian Democrats. In this case the deciding vote was the one of the Friulan Autonomist, and external ally (16th vote on 30) of a Christian Democrat-Socialist coalition. He was against the Yard, and, in order to retain his support, the other parties (in favour) had to yield to his requests (suggested by the agitator-sociologist) for EIA and referendum.
23. Prior to the Marshalling Yard case, apparently there had been only one community referendum in the Albergna area (Ulguna region). After that there have been several, specially in connection to power plant projects; one of them in Muggia, near Trieste (1985). In these cases, they are usually plebiscites against the projects, with more than 95% nays. In 1987 there has been a referendum on a chemical plant (pesticides) in Massa (Tuscany) with an about two-thirds majority favouring its closing down with a loss of 270 jobs. It has to be stressed that all these exercises in direct democracy have

no binding, legal values. The only legitimate referendum on environmental matters in Italy has been carried out at the national level, on the nuclear question (November 1987): participation has been unusually low, by Italian polling standards (65% against the usual ca. 90) and there has been also an unusually high percentage of blank or void votes. Of the valid ones, about 80% were against nuclear power plants; but they make up only ca. 45% of the Italian electorate. The anti-nuclear forces (in the last months, almost all established parties, and especially the Socialists) celebrated a triumph, and all nuclear programs in Italy were scrapped. But many ambiguities remain, and the story does not seem wholly over yet.

24. It engaged in an unheard of participation campaign, with the distribution of a brochure in which the arguments in favour of the yard were presented to every family, and debates were held in every district; a press campaign; and the impressive defile of regional and national authorities in Town Hall. The gap between the 50.8% in favour, resulting in the survey, and the 42% in the referendum can be easily attributed to such mobilization.

25. Since then the European Community has issued (1985) a directive pledging all member states to apply the EIA to major projects, by 1988. Italy has finally set up a new Ministry of the Environment in order to deal with the problem, and many institutional initiatives are under way (formation of the needed skills and manpower, etc.). Region Friulia Venezia Giulia has also produced an own scheme of EIA, which however the environmental movements find highly unsatisfactory.

26. A more extended presentation of the experience, in Italian, has been written four-handedly by the two sociologists: R. Strassoldo, B. Tella, *Agitazione sociale e consulenza tecnica. I ruoli del sociologo nella pianificazione del territorio. Rapporto sul caso di "Bovincano"*, in P. Guidotti (ed.) *Sociologia urbana, quale futuro*, Angeli Milano 1982. A by-product of the experience was the study of the social aspects of EIA: see note 8, and also R. Strassoldo, *Il bilancio di Impatto Ambientale*, Dibattito, 4, 1983 and, idem, *Critica, modelli e rilevanza empirica. I ruoli della sociologia nella valutazione ambientale*, in P. Schmidt di Friedberg (ed.) *Gli indicatori ambientali. Valori, metri e strumenti nello studio dell' impatto ambientale*, Angeli Milano, 1986.

27. The farming community, or rather, the farmers' trade unions did uprise against the project as soon as it was made available, blocked it, and promoted a counter-project of rather smaller size and different structure. They also started a rapid campaign against the "parcomania" and "environmental hysteria" allegedly affecting the region. The outcome of this confrontation is nowhere in sight (as long as the affected farmers are not bought out). The situation is politically very delicate because farmers are among the most solid supporters of the ruling Christian Democrat party; and political authorities certainly do not want unattached uncontrollable sociologists to meddle.

28. Short reports from this study have been published: R. Strassoldo, M. Pascolini N. Tessari, *Progettazione Ambientale, partecipazione sociale e ricerca sociologica. Il caso del parco fluviale dello Stella (Friuli)*, in A. Moroni, A. Anelli, O. Ravera (eds.) *Ecologia, Zara, Parma, 1985*; R. Strassoldo, *Agitazione e conservazione dell' ambiente. Il caso del parco fluviale dello Stella (Friuli)*, in *Seminario di Scienze Antropologiche*, v. VII, 1985.

29. The bibliographical references in which we have found inspiration and encouragement for this study is (besides the general sociological literature on collective movements, community conflict, environmental values etc.) the following: S. Arnstein, *A Ladder of citizen participation*, "Journal of the American Institute of Planners", 35, 4, 1969; M. Fagence, *Citizen participation in planning*, Pergamon, Oxford, 1977; W.R.D. Sewell, J.T. Coppock (eds.) *Public*

participation in planning, Wiley, London 1977; H. Butcher et al. *Community groups in action, case studies and analyses*, Routledge and Kegan, London 1980; The Royal Town Planning Institute, *The Public and Planning: means to better participation*, London, April 1982; R. Kimber, J.J. Richardson, (eds.) *Campaigning for the Environment*, Routledge and Kegan, London 1974; J. Goldstein, *Environmental decision making in rural locales*, Praeger, New York 1981; P. Hall, *Great Planning Disasters*, Penguin, Harmondsworth, 1980; D.A. Mazmanian, *Can Organizations change? Environmental protection, citizen participation, and the Army Corps of Engineers*, The Brookings Institute, Washington D.C. 1979; B. Baillard, *La damnation de Pos*, Seuil, Paris, 1981; W. Beer, *Ökologische Aktion und ökologisches Lernen*, Westdeutscher, Opladen 1982.

30. In particular, the Marshalling Yard case, the Stella River case, the Gravel pits case and the Coal Power Plant case. No newspaper articles were collected on them.

31. The number of cases oscillates, according to their "importance" (some turn out to be too ephemeral and weak to have real sociological "existence") or whether they are considered to be part of other cases, or one case split into two or more, or whether they are taken as sufficiently conforming to the "ideal model", for instance, local rural resistance against natural parks projects can be considered as an extreme, or reverse case. The ranking was on three classes (High, medium, low). There is little correlation between the three dimensions. A correlation with the profession of the judges (whether engineers, architects, or environmentalists) has shown, not unexpectedly, that the former tend in general to give "less importance" to EOMs. A somewhat fuller presentation of the study is to be found in R. Strassoldo, *Le lotte per l'Ambiente in Friuli*, "Identità", 16, 1986.

32. A 60 pages interim report of the study has been circulated among experts and authorities, and has been asked also by school boards throughout the region. A synthesis has appeared in party organs (Christian democratic party). In other specialized press, and another has been asked by the house organ of the Regional Guild of Engineers and Architects. Data from this study have been used in many conferences on environmental issues (1987 has been named the European Year of the Environment) in the region and thereabouts.

33. Among the worrisome ones (from the environmental-participatory point of view) is the Regional government's plan to adopt new administrative measures to grant the public-works technocracy fuller powers in overcoming local opposition, among the encouraging ones, the rising force, competence, and support of such opposition, which in some cases is reaping splendid victories (e.g. the battle against the canalisation of the Ledra river).