

REFLECTIONS ON THE GEOGRAPHICAL VIEW OF MAN IN THE ECO-SYSTEM

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ABSTRACT : Man is a difficult subject to be realized, and no science has been able to achieve this distinction, since the concept of man can be developed only in a unified and integrated science alone. Unlike other sciences Geography as a science does not confine itself to the geographical aspects of man alone but carries the entire spectrum of knowledge centred around man - nature syndrome. The basic premise, the unity of all that objectively exists, has saved it from fragmentation. Geography recognises that to the extent a body of knowledge qualified to be called a science, it is both natural and social.

The holistic approach incorporated in its central objective the study of spatial dimension of natural and social phenomena so as to synthesize them within a regional frame is essential to geography. The fundamental problem in geography is man-nature interaction. The non-humanized nature is of only marginal interest to the geographer. Nature comes within the orbit of geography primarily as a constituent element of social practice. Man is the focus of geography. According to the author the realm of Geography is 'noosphere', the sphere of planet earth which has been humanized by rational human activity. The pre-eminence of man in geography emerges not from his adaptation to nature but his capacity to interact with it. In order that the humanizing of nature proceeds in the desired direction, man builds social and political institutions. The sphere of man-nature interaction is viewed as a triangle of forces, there being the nature, technology and human institutions. It is this triangle of forces which is the primary concern of geographers. Nature provides the base, technology bends the natural processes, and institutions regulate the man-nature interaction.

The concept of eco-system is a unifying principle which offers an integrated view of reality and serves as a basis for the most relevant view of the functioning of nature. The concept, no doubt, is similar to, and may have even originated from the pre-scientific monistic view of reality. The unifying property of the concept of eco-system has broken the constraints imposed by the complementary inadequacies of the social and natural sciences. The role of geography is particularly important, since it can unify knowledge divided into natural and social sciences and thus attain an ecological perspective. By its very nature, it can significantly contribute to the current debate on ecology and development, particularly in the third world.

In Geographer's view of the eco-system, there is no contradiction between ecology and development. His concern with ecology within the framework of an eco-system approach is directed to optimising, and not maximizing, development. Planning for harmonious development recognizes the unity of nature and man and such planning is possible only on the basis of a comprehensive appraisal of environmental issues. Along with effective conservation and rational use of natural resources, protection and improvement of human environment is vital for the well being of man. This could form the basis of strategy for an accelerated socio-economic development without impairing ecology.

Like the seven blind men, sciences grope in the dark to conceptualize the multi-dimensional reality of man; only, the darkness is darker, eyes are more atrophied and the object is far more complex than the elephant. The obscurity is that of the well of 'discipline'; the blindness is that of the subject who is also the object; and the complexity is that of the realm of freedom along the highway of bio-social evolution. Each science, in its own specifically sophisticated manner, ends up with an aspectual, distorted and limited vision of that which is definitionally total-dissected limbs of a cadaver being mistaken for the integrated, living, ever-changing organism. Sciences (in the plural) flounder and fall in the quicksand of their own inadequacies, for the concept of man can be developed in a unified and integrated science alone. But spurious claims of false pretenders notwithstanding, such a science has yet to emerge from the shambles of fragmented empires.

That the geographical science has successfully resisted the temptation of producing a 'geographical man' to compete with the 'political man', the 'economic man' or the 'social man' in the race of stuffed and yet hollow men, is an indicator of its essential weakness and, at the same time, of its inherent strength. It is a symptom of its theoretical anaemia in the sense that the overwhelming concern with the specific minute has, in the recent past, inhibited the development of concepts in general – the discipline tending to acquire the dimensions and characteristics of a dinosaur; a huge body, a long tail and a tiny little head. Geographical science having failed like **Hamumana** to identify **Sanjivani**, carries the whole mountain of infinitesimal facts on its hefty shoulders. It may, however, be noted that the geographers did not, unlike some of their more revered counterparts in other discipline, lose touch with the earth while soaring into the ethereal heights of airy nothings, so as to end up in vacuous quibbling, semantic jugglery and meta-theoretical

acrobatics in the search for ever-ellusive profundity. Geography, fortunately, still smells of the earth. The inherent strength of Geography, which has enabled it to steer clear of the pitfall of fragmenting that which cannot be fragmented, flows from the very nature of the discipline. It is rooted in an essentially monistic view of the material world. Its basic premise is the unity of all that objectively exists. Geography does not only reject the segmentation of the human condition for analytical purposes and consequently the fragmentation of the social sciences but proceeds much further along the line. It denies the validity of a taxonomy of knowledge, where in the categories of the first order are the natural and the social sciences. To the extent that a body of knowledge qualifies to be a science at all, it is both natural and social, for, it studies the cause-effect complexes which transcend these distinctions. Such is the nature of matter in motion through space and time. Objectively, it is certainly so; but Geography, perhaps alone, among the natural and social sciences, almost self-consciously, recognises it to be so. Such a recognition is the **raison d'être** of geography. "The separation of the whole into man and his environment", said Herbertson, "is a murderous act the living whole is no longer the living whole when it is so dissected, but something dead and incomplete."

In the process of the systematization of knowledge of that which objectively exists along the space-time continuum, the complementary principles of Geography (space) and History (time) are of crucial significance. Shorn of its idealistic content, the following equation developed by Kant, provides the necessary tool to place History and Geography on the map of knowledge :

History : Time : : Geography : Space

Viewed thus, Geography is concerned with the spatial dimension of the **entire system** of inter-dependencies and not with one of its aspects or facets. The holistic

approach is, thus, essential to Geography and has enabled it to sustain its basic macro-cosmic concerns in the face of the evolving specialisms within its generic fold. It is able to do so by identifying as its central objective the study of spatial dimension of natural and social phenomena so as to synthesise them within a regional frame. It builds a hierarchy of totalities – from the micro to the macro – along the the spatial scale.

Viewed in the above perspective, how does Geography contribute to the conceptualisation of man? What is the basic question about the nature of man that it poses? From this point of view, the fundamental problem of Geography is that of man-nature interaction. The work of the geographer is contingent upon the recognition of the unity of the material world through the mechanism of interactions between social man and nature. The essentiality of man and nature is based on man as a natural being and natural nature as a human reality. Since the naturalisation of man and the humanisation of nature proceed simultaneously through man's interaction with nature, human history may be viewed as a continuation of and a qualitatively new stage in, natural history—the two constituting a differentiated unity. It is no doubt true that primeval nature is prior to man and continues to exist without him everywhere except on the micro-dot of a planet in the vastnesses of the universe. This non-humanized nature, which has not naturalized man, is of only marginal interest to the geographer. Nature comes within the orbit of geography as a constituent element of social practice. Man interacts with nature through labour, transforms it and himself gets transformed in the process. This man, who makes himself in remaking nature, is the focus of Geography.

In the process of transforming nature and himself, social man moves from the realm of necessity to that of freedom in the

sense in which Spinoza conceived the latter: "recognised necessity". It may, however, be noted, as Engels has rightly stressed, that "freedom does not consist in the dream of independence of natural laws, but in the knowledge of these laws, and the possibility this gives of systematically making them work towards definite ends". Freedom and necessity are not, therefore, mutually exclusive categories. Freedom should not be confused with the "self-determination of the spirit", or the so-called "freedom of will" which puts it outside the purview of the compulsions of nature. Neither should necessity be equated with mechanistic determinism, which negates the role of human will and considers the action and behaviour of man as the function of objective nature alone.

To the extent that man does not understand the processes of nature through social practice, he is in the realm of unrecognised necessity; to that extent he is unfree, a slave crouching in awe and supplication before the rising sun or the mighty mountains. As man marches onwards on the basis of understanding natural laws and systematically making them "work towards definite ends", he steps into freedom though continuing to be within the gravitational field of necessity, which no longer remains blind but becomes an instrument of conscious social practice. The hold of necessity continues, nevertheless. In fact, it becomes more and more rigorous with every technological advance—with every step towards freedom. With rudimentary knowledge about the property of stones and elementary acquaintance with the laws of applied mechanics, the palaeolithic tool maker became relatively free vis-à-vis his hominid ancestor, but was still at the mercy of nature—the vagaries of climate or the ferocity of predatory animals. The modern tool maker in an engineering workshop has extended the orbit of his freedom by recognising and utilising a far larger number of very much more complex laws of nature. Freedom,

therefore, transforms the nature of the role of necessity; it does not weaken it. The freer man becomes, the more he recognises the chains that bind him. These chains cannot be broken; they can only be utilised through social practice. Even if we conspire with fate a la Omar Khayam, we cannot "shatter it to bits"; but we can certainly transform the external world of nature "closer to our heart's desire" by cognising the laws that govern it.

The realm of freedom is the noosphere, the sphere of the planet earth which has been "humanised" by rational human activity. The traditional division of the planet into the lithosphere, hydrosphere, atmosphere and the bio-sphere may interest the geologist, the hydrologist, the meteorologist or the biologist; but it is of marginal concern to the geographer. However, when the alluvial fan in the Himalayan valley gets transformed into a system of terraces, when the mighty torrents are tamed to fertilise the thirsty earth, when a new crop rotation system is evolved to take advantage of a short growing season, when a wrong grazing practice leads to deforestation—then the segments of the lithosphere, the hydrosphere, the atmosphere, and the biosphere get synthesised and transformed into the noosphere, the realm of cognised necessity. This is the realm of Geography.

When Plewe stated that "in Geography, man is the measure", he was not repeating an anthropocentric platitude. Man is the measure in Geography not because he is the "principal inhabitant of the planet", as Cholley put it or because he, of all living things, has a divine soul, as Ritter would have wanted us to believe, but because and only because he is the creator of the noosphere. He alone, among the known species of the planet, does not just adapt himself to nature but actually interacts with it; who is not only a passive element but is an active factor in the eco-system; who does not only vegetate and survive within

the orbit of blind necessity but operates within a realm of freedom, cognising laws of nature so as to transform it. And yet, as the evolving crisis would show, there are very definite limits which he can dare to transcend only at his peril. Recognition of these limits would be the recognition of necessity today which would entail nothing less than freedom from illusive affluence for a tiny minority of the human race and at the same time from pangs of inexorable deprivation for the rest.

When man emerges from the orbit of blind necessity, his labour casts off "its first instinctual form". The "naive utilization of nature solely through the medium of the organs of the body" is replaced by conscious production. The unity of man and nature, at this higher level, is mediated by the tool. Marx has brought this out with inimitable elegance: "The instrument of labour is a thing, or a complex of things, which the labourer interposes between himself and the object of his labour, and which serves to conduct his activity on to it. He makes use of the mechanical, physical and chemical properties of some things in order to set them to work on other things in accordance with his purposes." In other words, nature provides the object of labour; the instrument of labour is appropriated nature; and human labour is the active principle through which already "appropriated nature" further appropriates nature. This is the basic content of man-nature relationship. By definition, this interactive system is dynamic and everchanging—providing the basic foundation for bio-social processes of change.

In order to be able to interact effectively with nature through the use of the instruments of labour, man has to come to terms with other men and, as a consequence, has to build a system of institutions—economic, social and political. The latter constitute facets of a complex but integrated system,

which makes social life possible and the processes of humanising nature to proceed in desired directions.

In the light of the above, the Noosphere, the sphere of man-nature interaction - may be viewed as a triangle of forces. Nature provides the base, lays down the limits of freedom and indicates the direction along which optimum appropriation through social labour is possible in the long run. Technology aids natural processes, bends them to human (and humane!) purposes, modifies them and thus extends the range of freedom. Institutions are either conducive to or restrictive of man - nature interaction. It is this triangle of forces which is the primary concern of Geography. What sometimes appears to be an integration of heterogeneous phenomena is for the geographer a complex and interactive system, in which man plays the most crucial role. The earth, whose variable character is studied by geography, is the world of man. It is in this context that the concept of the eco-system acquires a specific connotation in geographical studies.

The concept of the eco-system, as a holistic complex of inter-dependencies, is perhaps the most significant of the unifying conceptualisations of objective reality. This has arisen in the world of knowledge as a timely corrective to the academic tradition of the post-industrial society based on the disaggregation of the totality into facets, aspects, parts or fragments for deeper study and analysis, thereby engendering the knowing of more and more about less and less. The gap between the essentially holistic character of the objectively existing system and its fragmented cognition through disaggregated analysis has already become a serious constraint on and had led to a crisis in knowledge. It is the experience of history that at such critical moments, unifying principles emerge which provide the basis for a *weltanschauung*, an integrated view of totality. The four-element four-humour universe of Hippocrates, Aristotle and Ptolemy, the

principle of gravitation of Newton, the theory of evolution of Darwin, the dialectical and historical materialism of Karl Marx and the $E=MC^2$ equation of Einstein may be considered to be such unifying principles of knowledge, emerging on the scene as synthetical constructs intergrating disaggregated findings into a system of ideas and bringing the entire spectrum of sciences into their orbit of influence. It is being suggested that the concept of the eco-system is a unifying principle of this order, which though rooted in all the sciences still transcends them. It provides the closest conceptual approximation to the integrated complexity of objective reality and may, therefore, serve as the basis for the most relevant ideology for the contemporary world.

Like all the significant ideas of science, the scientific conceptualisation of the eco-system, which is a recent product of the intellectual crisis of the post-industrial society is rooted in a pre-scientific tradition of great chronological depth and is, in fact embedded in the basal psyche of the *homo sapiens*. The system of animistic and totemistic beliefs, characterising the proto-ideology of the Palaeolithic age, was based on a unity of all that exists and transcended the duality of the biota and the abiota, of the animal and the human, of the material and the spiritual. The worship of the Mother Goddess, which has been the substratum of the spiritual ideas of the agricultural peoples all over the world, was similarly rooted in a holistic view of the Universe, which subsumed the man-nature dichotomy into a broader unity though in an inverted form. The mysticism of the orient, which continues to wield considerable influence over the mind, resolved the subject-object, man-nature contradiction through a monistic view of reality. The modern concept of the eco-system has such a distinguished parentage. Just as science has arisen out of magic; so has this scientific conceptualisation emerged from pre-scientific intellection by assimilating to kernel of truth and rejecting

its pseudo-spiritual clap-trap.

A proper development of this concept both epistemologically as a model of the universe and methodologically as an analytical tool, has to contend with the continuing rigidities of the fragmented hierarchies in knowledge. While the social sciences have moved towards a certain degree of internal cohesion, the world of non-human nature is still alien to it, at best producing unnecessary noise in their sophisticated computer programmes. The agricultural economist would rather not dirty his hands with the soil, this nauseating residual in his regression model, which cannot be wished away. The incapacity of the natural sciences to go beyond the rigid limits of their sub-system is no less alarming. The internal integration of the natural sciences has at best produced the science of ecology. In their just concern with the autotrophs and the heterotrophs, the ecologists, tend to forget that the *homo sapiens* constitute a category qualitatively different from the other heterotrophs, that their explanatory system is incapable of accounting for the behaviour of social man; that they are asking only limited questions and can, therefore, get only inadequate and partial answers. At best, they recognise man as an element in the man and nature syndrome and have shown a unique incapacity to recognise the reality of man in nature. They fail to see that the rationality of man is as much natural as the irrationality of the monsoon wind, the chernozem or the xerophyte. The unifying concept of the eco-system has arisen to break the constraints imposed by the complementary inadequacies of the social and the natural sciences. While the former cannot come to terms with the animality of man, the latter cannot come to terms with his humanity. It is in the background of such a serious crisis in knowledge that the geographical science has a modest but a significant role to play. Though deeply rooted in nature, the discipline

has manifested a unique capacity to come to terms with man. This enables geography to bring a vitally important input in the current debate on ecology and development that is raging in the world, particularly in its third segment.

The geographer's conceptualisation of eco-system helps him to steer clear of two erroneous strategies—first, the strategy of “development” at all costs leading to eco-destruction; and second, the strategy of rejecting development in the name of ecology. For Geography, the ecology development contradiction is a false contradiction. The laws of nature not only impose constraints on but also point to the direction of optimal development. Unless this dual relationship between the ecological correlates and the development process is fully recognised, one tends to get neck-deep in the morass of “hippie” ecology, the spurious environmental concerns of the “flower people” for whom nature is a virgin which should not be violated through human intervention. The latter view, under different colours and hues is being assiduously sold by some of the ideologues of the developed world to the developing countries. The situation is rather ironical. The advice not to proceed along the path of development through proper resource utilisation comes from those nations who are themselves the major culprits of eco-destruction through the dysfunctional monopoly of natural resources in an inter-national system of inequalities, wherein 20% of the world population is permitted to misuse 80% of its resources, and wherein the city of Chicago alone is allowed to consume more oil than the second most populous country in the world. There appears to be considerable weight in assessment of some scholars of both the developed and the developing world to the effect that the anti-development injunctions, being issued for the benefit of the innocents of the third world by the prophets of doom of the Club of Rome, or

the dons of MIT and or Sussex, are really intended to widen the North-South gap and perpetuate the poverty and misery of the bulk of humanity. Our concern with ecology within the framework of an eco-systemic approach is directed to optimising (and not maximising !) development so as to extricate our people from the vicious stranglehold of hunger and poverty; for, in the third world hunger continues to be a most potent pollutant - an eco-destructive force of tremendous magnitude for it destroys man, the crucial component of the contemporary eco-systems. Those who lose their night's sleep over the fate of a blighted tree or a faded flower should sometime also look at the bloated bellies, sunken eyes and the skinny arms of hungry children.

It is heartening to note that as early as in the Fourth-Five Year plan, a fairly clear understanding about relationship between ecology and development was discernable. It was stated therein: "The physical environment is a dynamic, complex and inter-connected system in which any action in one part

affects others. There is also the interdependence of living things and their relationships with land, air and water. Planning for harmonious development recognises this **unity of nature and man**. Such planning is possible only on the basis of a comprehensive appraisal issues—**particularly economic and ecological.....** It is necessary, therefore, to introduce the environmental aspects into our planning and development. Along with effective conservation and rational use of natural resources, protection and improvement of human environment is vital for national well being. It is particularly important that **long term basic considerations should prevail over-short term commercial considerations, the social costs and benefits be used as the yardstick than private gains and losses.**"

The above statement provides the basic guidelines for formulating a proper strategy which would simultaneously strengthen the integrity of the eco-system, on the one hand, and, on the other, ensure an accelerated rate of socio-economic development.

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