

THE INTERNATIONAL SOCIETY FOR METAPHYSICS
STUDIES IN METAPHYSICS, VOLUME I

PERSON AND NATURE

Edited by
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University Press of America
International Society for Metaphysics

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PREFACE

Hywel D. Lewis

I am happy to welcome and commend this first volume copublished by the International Society for Metaphysics (ISM) with the University Press of America. The Society was conceived at the meeting of XIVth International Congress of Philosophy held at Vienna in 1968 under the extremely valuable sponsorship of leading members of the Metaphysics Society of America. It was brought to birth at the subsequent International Congress of Philosophy at Varna in Bulgaria, 1973.

There, a series of meetings on metaphysical topics took place in the week immediately preceding the Congress. About one hundred philosophers attended and papers by selected persons, circulated beforehand, were thoroughly discussed. This unusually stimulating and helpful occasion was due to the responsible labor of the Honorary President and Vice President, Professors Paul Kuntz and Ellen Haring. To them also is owed the spirit of friendliness and cooperation which has continued to characterize the activities of the Society. It was resolved in the course of the week at Varna to set up a formal constitution in order to lay down a firm foundation for continued activity.

The papers read at the Varna meeting were not published as a separate volume, though many were published in various journals. The contributors set out especially to indicate what they considered to be the present role of metaphysics. Many stressed the need to avoid the lack of caution in speculative thought which gave metaphysics, deservedly in some respects, a bad name earlier in this century. At the same time, it was felt that speculation could be, and ought to be, a good deal bolder than the minimal revisionary metaphysics which retains an excessive respect for the limits set for empiricism.

The debate about these matters will not doubt continue, and the most important thing is that the ISM makes this possible in a coordinated manner. But philosophy is never healthy if it is excessively concerned about its own role and hypochondriacally nursing itself. The lessons of the present century can be taken to heart without unnecessarily curbing speculative flair, and it was noticeable at Varna how many of the papers dealt with distinct metaphysical questions. Impressive also was the determination to cope with inevitable language difficulties and the respect shown for differences of outlook and allegiance.

One view very firmly expressed at Varna was the need to be more mindful of metaphysical work in the East. The invitation extended by ISM Vice President, Professor Santosh Sengupta, to meet in Santiniketan in West Bengal was readily accepted.

The papers for this meeting on "Man and Nature" were predistributed, thus enabling most of the time to be devoted to stimulating discussions. Due to the resourcefulness of Professor Sengupta and the authorities of Visva-Bharati at Santiniketan it was possible to publish this collection of papers under the title, *Man and Nature*, through Oxford University Press, Calcutta. The editors, Professor McLean, ISM Secretary, as Chairman of the editorial committee, with Professor Sengupta and W. Norris Clark of Fordham University, New York, are to be congratulated on producing a volume of rich and cohesive content.

The publication of this volume as the first of the series of volumes resulting from this and the subsequent conferences is a landmark in the history of the International Society for

Metaphysics. It is much hoped that the work of the Society will continue to flourish and to provide a focus and stimulus for cautions, critical, but also, one hopes, inspired metaphysical and speculative reflection. Its problems are those which every age must rethink in terms of its own circumstances and aspirations.

Indeed this work is already well along, for this Conference in Santiniketan was followed by another on "Man and Society" in New York, and a third on "Man and God held, appropriately in Jerusalem. Their papers are published in separate volumes to form, along with present work, an in-depth analysis of the contemporary spectrum of metaphysical issues regarding the person. In the light of this detailed and progressive series of studies a meeting preceding the XVIth World Congress of Philosophy in Dusseldorf studied the issues which arose in the trilogy of previous conferences and their implications for further work in metaphysics as a discipline. This, in turn, has been followed in natural progression by two additional series of conferences, namely, on society and on culture.

Progressively, this work has generated sets of studies on the relation of logic to metaphysics coordinated by Richard Martin as well as sets of volumes by philosophers in the various cultural regions on the creative role to be played by their cultural heritage with its metaphysical roots in the contemporary process of change as well work toward adequate philosophical foundations for life in the next century.

Together these series of volumes constitute an integrated and progressive effort directed towards enabling metaphysics to make its needed contribution to mankind in its efforts to live with others in society and to play an appropriate role in nature so that both might be transformed in the image of God.

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INTRODUCTION

GEORGE F. MCLEAN

This study by the International Society for Metaphysics of the relation between man and nature is the first of three such investigations coordinated around the person and directed to its relation to nature, to society and to God. All are intended to draw upon the classical metaphysics of East and West and to extend that wisdom to man's life in this century. The particular task of this volume is, therefore, to search out the dimensions of an understanding of the physical universe sufficient to enable man to live fully and creatively in these times.

The first three quarters of this century has seen a number of major attitudes towards nature. One of these has emphasized man's ability to transform nature; it is typified by the central place of the notion of human progress in the philosophies of praxis and of pragmatism. A second has been the periodically recurrent awareness of the limitations of physical resources and of the fragile character of their economic structuring. Finally, an aesthetic attitude towards nature has been expressed in concern for ecology and conservation.

These attitudes, which in the past have occupied the attention of philosophers serially, today vie simultaneously for attention. Developing nations face the need rapidly to achieve material progress, often in the face of shortages and while carrying forward the basis of their classical self-understanding. Other nations face the problem of conserving resources in the face of progressively more ambiguous economic and industrial creations. Both converge in the need today for the development of metaphysical insight which will enable man to direct progress, face the limitations of the physical world and achieve a more adequate fulfillment of himself in nature.

In order to bring a broad range of metaphysical capabilities to bear upon this understanding of man's relation to nature, this series of papers was prepared and discussed intensively at the second meeting of the International Society for Metaphysics held at Visva-Bharati, Santiniketan, West Bengal. The papers reflect the various modes of stating the problem, elaborate carefully the multiple levels of contributions to its resolution and search out the ways in which these converge or are mutually illuminative.

Part I takes the first step by considering one of man's major projects for appreciating nature, namely, science. The papers of E. Agazzi and A. Mercier, by noting the extension of the meaning of the physical universe beyond that articulated by the sciences, both identify the distinctive task of metaphysics and relate it positively to science. E. Harris notes the implication of the development of science for man's metaphysical conception of the universe and of his place within it.

In the present century, this role has most generally been seen, not theoretically, but practically. Hence, Part II traces the contribution of this practical awareness. The papers of M. Chatterjee and J. Smith analyze and evaluate the foundation and implications of the pragmatic attitude. Those of J. Kuczynski, A. Woznicki and S. Charkravarti constitute a parallel study of the implications of the Marxian analysis of praxis for understanding man's relation to nature.

A major recent concern, however, has been that the reality of the person has been seriously ignored in the increasing focus upon the transformation of the physical universe. Indeed, there may be reason to ask whether that universe itself can be understood adequately except in relation to person, knowledge and will. It is this question in its many modes of person and nature, East and West, that is studied in Part III by the papers of K. Bhattacharyya, S. Thakur, C. Chung-yuan and T. Fay.

Finally, in Part IV the search for the meaning of nature and of man's life therein is carried to its ultimate metaphysical root. The articles of M. Abe, K.K. Banerjee, T.M.P. Mahadevan and W.N. Clarke search out this meaning and the nature of its discovery in the absolute and/or transcendent. In this light nature can be seen afresh as is reflected in the articles of E. Deutsch and B. Bhattacharya.

Professors H.D. Lewis, Surajit C. Sinha and Santosh Sengupta, all of whom aided in initiating the study, have graciously embellished it with a Foreword, Prologue and Epilogue, respectively. To them and to the authors of the papers whose wisdom and scholarship this volume reflects, as well as to B. Kennedy and A.M. McLean for their work in preparing the manuscript, the International Society for Metaphysics expresses sincere thanks.

PROLOGUE

SURAJIT SINHA

On this campus one of the greatest minds in human history was engaged in creative experiments towards defining the ultimate goals of human existence. Rabindranath Tagore's life-long pursuit was to seek and establish harmony with nature in the thoughts and action. It is indeed a fitting tribute to his guiding spirit that the theme of this conference is "Man and Nature."

An anthropologist, accustomed to observe human behavior in a mundane and matter-of-fact manner, has a feeling of diffidence in confronting philosophers. As members of a super-discipline, they monitor the theoretical concepts and methods of other specialized disciplines at a high level of abstraction. Nonetheless, philosophers do seek a feed-back from the concrete problems of various disciplines and specialists in the various fields do seek clarification of their ideas from philosophers. I would like, therefore, to suggest some problems relating to the concepts of man and nature in the evolutionary experience of the Homo Sapiens.

Ethnographers the world over have attempted to record the customs of people belonging to a wide spectrum of levels and patterns. These include the primitive, isolated, self-sufficient hunters and gatherers, and also the highly industrialized urban-based modern societies. There is general agreement in an ideally constructed model of an 'archaic primitive world view' in which the concept of man, nature and supernature deeply interpenetrate. The three categories are woven together in a unified moral order. In such a state of mind man intimately cares for nature and vice-versa.

Further, in such a state, the relationship between man and man is fully social. It is essentially undifferentiated, egalitarian and non-hierarchical. In contrast to the prevailing stereotypes about the primitive hunter living in perpetual scarcity, more recent thinking about the archaic primitive's conception of nature is essentially one of bounty. Marshal Sahlins has described the archaic primitive as representing "the original affluent society." At this level there is obviously little scope for developing abstract concepts clearly defining the boundaries of "man," "nature" and "supernature." Nature is not regarded as a differentiated object of art or beauty.

When attention is directed to modern industrialized society, the primitive linkages between man, nature and supernature are found to be sharply broken. Man has much lesser direct sympathy and knowledge for non-human items in nature and in the supernatural sphere, but he also has less immediate kin-like feeling with other human beings. As a result he has to mediate with men, nature and the supernatural through conscious constructs. These worlds of man, nature and supernature become sources for constant intellection by the literati and specialists. In all these developments we have to assume that there is a co-relation between the subjective world of man and the objective reality of the social situation and its material infrastructure.

One of the perennial problems of anthropology has been to speculate and theorize on the mode of transformation from the undifferentiated primitive world view to the highly differentiated abstract modern concept of the world. It is observed that while the ideal primitive is ideally non-alienated, the ideal modern man must face tremendous pressures of alienation from his fellow beings, from nature and also from a viable socially shared construct of cosmology. One of the pursuits of modern man has been, by re-discovering the primitive, to regain the unalienated self. Such efforts have been made in the fields of art and literature, as well as in some innovations in social institutions. They always leave one, however, with the feeling that

certain archaic states of mind are irretrievably lost. A very interesting problem for anthropologists, and perhaps for philosophers as well, would be to construct the transformation rules for tracing both the development from the primitive to the modern world view and for movement in the reverse direction.

Concretely, Indian civilization would appear to have been able to retain the primitive world view at a high level of conscious formulation, as well as in folkways of the rural peasantry. It is not for nothing that Sir Herbert Risley described Hinduism as "animism transformed by metaphysics." In terms of more recent anthropological jargon we would label such a transformation as orthogenetic, as distinct from "heterogenetic" or "secondary" transformation in the modern world by which the linkages with the primitive core are lost.

The above mode of studying the problem may have relevance to the present problem of the relation of man and nature. It suggests some of the ways people at different levels of society define, consciously and sometimes not so consciously, the position of man in the cosmic order. Most of all, however, I should like to recommend the example of the great man who lived in this village and unfailingly held the torch for the highest ideals of man with very meager material resources.

Visva-Bharati
Santiniketan

CHAPTER I
SCIENCE AND METAPHYSICS BEFORE NATURE
EVANDRO AGAZZI

One of the most widely accepted commonplaces of 'western culture' is that science is the only proper instrument with which to 'know' nature. An equally widely accepted idea is that science has acquired this exclusive right to speak about nature by progressively expelling metaphysics from the field. This is confirmed by the fact that, whenever a statement is qualified by scientists as 'metaphysical' it invariably means that such a statement must be rejected as naive, incorrect and misleading.

THE EXCLUSION OF METAPHYSICS

This raises the important question of whether science alone is responsible for such an attitude, or whether philosophy itself has something to do with this underestimation of metaphysics. Clearly, the most effective reasons for the crisis of the reliability of metaphysics lie within philosophy. In fact, one of the most characteristic features of contemporary western philosophy is that it has more or less explicitly given up every pretense of 'knowing', leaving the entire area of knowledge to science. This does not mean that contemporary philosophy has ceased to consider itself as a 'rational' activity, or that its performances show less intellectual strength, ingenuity and rigor than those of earlier philosophies. It means simply that the aims of this rational investigation are oriented towards different goals, as, for example, human actions, the existential analysis of man's situation in life, or the phenomenological description of different kinds of human activities or conditions, including investigations concerning language and inquiries about the structure of science. The intellectual attitude shared by all these philosophical positions might be qualified as 'analytic', inasmuch as the task of rational inquiry is conceived to be that of 'analyzing', describing, decomposing or bringing to evidence what is in a way empirically given or detectable in the different fields. In this analysis one must not 'add' anything which could come from our reason and thus appear as a possible intrusion upon the genuine structure of reality. In this sense, it could be maintained that contemporary philosophy shows a general mistrust towards any 'synthetic' use of our reason, i.e., towards its work of building up something by its own powers without the permanent assistance of empirical control.

If such be the most general feature of philosophy in our days, it is no wonder that metaphysics appears now to be less esteemed than at most any other point in its long history, for metaphysics is structurally based upon such a synthetic use of pure reason. It is essential that it be allowed to surpass experience and proceed to constructions founded upon the 'mediation of experience'. From what has been said, philosophy would appear to bear the major responsibility for the decrease in the estimation of the power of reason which led to the rejection of metaphysics. On the other hand, this fact cannot be explained in a satisfactory manner without calling upon science; in fact, metaphysics was held for such a long series of centuries to be the core of every philosophical system that one cannot reasonably believe that philosophers have changed their mind on this crucial point simply because of an internal evolution of their discipline. In reality, they were induced to modify their conception of what philosophical knowledge ought to be by the impression made upon western culture by the enormous success of scientific knowledge.

This impression was so great that it radically changed the 'paradigm' of knowledge itself. Certainly, Kant was correct in qualifying as a 'Copernican revolution' his famous substitution of the subject for the object as the barycenter of the theory of knowledge. A still more profound revolution, however, was implied when he proposed that the main task to be fulfilled by his Critique of Pure Reason was to investigate whether metaphysics 'as a science' was possible. The very fact of asking this question indicates that science--more precisely natural science as it was exemplified by Newtonian mechanics--had already become the model or paradigm of the knowledge on the basis of which the theoretical claims of metaphysics were to be judged. If this was already true with Kant, it has increasingly emerged as the standard viewpoint of the majority of philosophers during the past century, and more particularly in this century.

In this way there emerged a philosophical attitude which may be outlined as follows. Science has provided the only example of a sound knowledge. It has been able to do so, not only without any need of transcending or mediating experience, but by explicitly forbidding such a mediation. It follows that philosophy, too, may hope to become a sound discourse only by discarding this mediation and, hence, by recognizing as illusory every metaphysics which adopts the mediation of experience as its crucial instrument.

SCIENCE AND THE MEDIATION OF EXPERIENCE

What must now be investigated briefly is whether such reasoning is actually correct. This can be done by asking first whether the sciences really do avoid every mediation of experience. On this point, much has been done during the last decades. Contemporary philosophy of science has left far behind the basic tenets which characterized the conception of science defended by E. Mach towards the end of the past century and was advocated by logical empiricists during the first decades of our century. They claimed that in science the content of genuine knowledge is confined to empirical statements. Theoretical constructs do not state any knowledge in the proper sense because they simply result from 'tautological' transformations of the empirical statements and as such cannot add any new information of their own. At best, by means of suitable logical analysis, they can be 'reduced' to empirical statements. Their task, therefore, is simply pragmatic; it amounts to offering the possibility of an 'economic' organization of empirical truths for the sake of their better employment in making predictions, realizing applications, etc. In principle they could be dropped without any loss of knowledge; hence, they could be eliminated from pure science as such.

Historical developments in the inquiry concerning the structure of science, however, have shown how illusory were such viewpoints. Without entering here into details, it is sufficient to stress the two main results concerning empirical sciences, namely, the essential indispensability of the theoretical components and the impossibility of clearly distinguishing the empirical from the theoretical impossibility.

Why did the elimination of the theoretical side prove impossible? It is not just a matter of fact, but has a deeper philosophical reason. If science were simply a pragmatic enterprise undoubtedly it could dispense with theory construction, because empirical evidence suffices for handling things. The fact that theory could not be eliminated from science is evidence that science has another task to fulfill, namely, 'understanding' reality. By 'understand' is meant something more than purely 'ascertain', for which pure experience might perhaps be sufficient. Certainly, as a starting point the process of understanding requires that evidential data be 'ascertained'. But it then proceeds by introducing further statements or hypotheses by means of

which it is possible to 'give a reason' for what was already `evident'. This structure of rational understanding shows that in order to reach its goal empirical evidence is not sufficient and that nonempirical elements must be employed.

This implies the following consequences: (i) science necessarily contains nonempirical concepts and statements; (ii) to reach these science needs some mediation of experience; (iii) this is due to the fact that, even in the case of science, the immediate does not appear as the original; and (iv) the process for reaching the understanding of the immediate employs two principles: experience and logos, which is a creative and synthetic use of pure reason.

The four requirements just mentioned can easily be recognized as the cornerstone for the construction of a metaphysics. It can be concluded, therefore, that no objection against metaphysics can be derived from a methodological analysis of science.

This conclusion may sound a bit too optimistic and hasty; an objection of the following type seems natural. It is true that science cannot help employing a mediation of experience, but the all-important point is to remain constantly within a `faithful mediation'; this means not venturing beyond any possible control of what is said during the course of this mediation. Science has always felt this duty of remaining faithful to experience as its categorical imperative. This can be seen from the fact that even the most abstract and theoretical statements must be connected with other fully empirical statements by logical and mathematical links which, though complicated, are always open to investigation. This is the deepest sense of the `principle of verification'; it cannot be circumvented, even when one is aware of the shortcomings which affected this principle in the first stages of its too pretentious formulation.

Metaphysics, on the contrary, has unfortunately forgotten this fundamental obligation, allowing itself every type of freedom in mediating experience. This is the main reason for its failure in the attempt to produce acceptable knowledge. This objection appears at first to be quite strong, but further analysis will enable one to accept the truth it contains, without it constituting a difficulty against metaphysics. The way out of the impasse is offered by the fact that we are not concerned here with a problem of `faithful mediation' proper, but rather with a question of selecting a specific thematic domain, framework of questioning, or viewpoint for inquiry, etc. A full explanation of all this would need a rather detailed analysis of the structure of scientific objectivity. The present author has developed that elsewhere, but the most relevant points of this analysis can be restated succinctly.

SCIENCE AND METAPHYSICS: `THE WHOLE OF EXPERIENCE' AND THE `WHOLE'

A science is never concerned with the entire domain of `reality'; rather, from this it designates its specific domain of `objects' by resorting to some `predicates' which can be thought of as representing its `viewpoint' on reality. Mechanics, for example, investigates reality only by means of predicates such as mass, length, time and force, as well as some other predicates which can be obtained from these primitive ones by means of explicit definitions; electrodynamics characterizes its objects by means of primitive predicates such as time, length, charge and other explicitly defined concepts, etc. This procedure is quite universal and can be verified in every exact science. It can be maintained, therefore, that every science characterizes its objects or determines its proper `domain of objects' by means of its specific predicates. It follows that whatever is not characterized by these predicates falls outside the competence of this science while, on the other hand, everything which can be characterized by them falls within its

competence. Every such set of specific predicates determines 'the whole' of physics. By adjoining to this the whole of chemistry, the whole of biology, etc., one obtains the whole of natural science. In a kind of limit considerations, by considering the complex of all possible scientific 'wholes' one obtains the 'whole of science', which may be considered as characterized by the totality of all possible empirically definable predicates. For this reason, we could say that the specific domain of science is 'the whole of experience.' This is because the 'objects' of science in general are built up by means of primitive empirical predicates, which fact automatically limits the competence of science to what can be described by such predicates.

The 'choice' of each set of primitive predicates is itself contingent. While this determines the whole of a certain science, it cannot prevent other sciences from being both different and equally legitimate 'viewpoints' upon reality. The choice of such viewpoints is in fact a matter of 'decision' and 'interest', for no intrinsic necessity could compel one to consider a dog, e.g., from the viewpoint of mechanics rather than of biology or psychology. On the contrary, one would be perfectly right in deciding to consider the dog from all such different viewpoints, and additional ones as well. If we apply this remark to science, we must say that adopting a scientific attitude towards reality amounts to taking the decision to place oneself from the viewpoint of the 'whole of experience', as we have already discussed. This decision is certainly fully legitimate. It does not, however, state a necessity, but is contingent; nor can it exclude other decisions and viewpoints from being equally legitimate.

In particular, one could be interested in investigating reality from the viewpoint, not of the 'whole of experience', but of the 'whole' without further specification. In this case, he would not be obliged to limit himself to statements which could be traced back to experience. Such a condition is compulsory for science only because the 'whole of experience' constitutes its specific domain of inquiry, but this cannot be the condition for admitting statements which are concerned with the 'whole' without limitation. If now we qualify metaphysics as the effort to investigate reality from the viewpoint of the 'whole', which is different from investigating 'the whole of experience', the verification principle cannot constitute an objection because it is simply a 'demarcation' criterion which circumscribes only the domain of science (i.e., the domain of the 'whole of experience'). What does not fulfill this principle can be said to fall outside science, but not outside all meaningful inquiry.

Something more should be noted. Not only is science unable to exclude the questioning of the 'whole' as such, but there are moments when the viewpoint of the 'whole' comes into play within scientific discourse itself. Each specialized field of scientific research suffers a kind of 'contingency', as mentioned above. This implies the well-known characteristic of 'refutability' for scientific statements: one can never be sure that nature can be described fully by means of those precise predicates which are selected in order to establish a certain domain of inquiry. Hence, one must always expect to be confronted with aspects of reality which fall outside the possibility of being treated by means of the accepted tools of inquiry. When such cases appear, one is faced with the problem of the 'whole', in relation to which he must measure the inadequacy of his previous viewpoints. Speaking more generally, whenever one is concerned with the problems of the 'foundations' of science--and this happens not only in the philosophy of science, but at times also in science itself--one cannot help being involved with the viewpoint of the 'whole'.

These clarifications make possible a clear evaluation of the philosophical position which reproaches metaphysics for neglecting in its statements the continuous control of experience. In order to be correct, that is, in order not to confuse the 'contingent' choice of the viewpoint of the

`whole of experience' that characterizes science with a `necessary' requirement for every meaningful discourse, those advocating that position must prove that the `whole' coincides with the `whole of experience.' Surely, there is no such proof in the entire history of philosophy, and such a claim must be held to be purely dogmatic. What is more, if such a proof were ever to be proposed it would necessarily be metaphysical, for in order to show that the `whole' coincides with the `whole of experience' one cannot help taking `the viewpoint of the whole' which means adopting a metaphysical attitude.

What has been said thus far is fair not only to metaphysics, but to science, because it does not claim that science contains at least some metaphysical elements, as some philosophers today seem to maintain. In fact, when we established that science is obliged to admit mediation of experience, to accept nonempirical elements in its theoretical apparatus and to resort to a synthetic use of reason, one might have felt inclined to consider all that as a claim that these are unavoidable metaphysical components of any scientific knowledge. But this is not true because all these elements always concern the `whole of experience.' How this can happen may be exemplified quite easily. A concept like that of an electron in physics is obtained by a mediation of the empirical evidence because it is not directly observable; it is a theoretical construct and, as such, nonempirical. Despite all that, this concept should not be classified as `metaphysical' because the `predicates' through which it is characterized are still the usual predicates adopted to circumscribe the `whole of physics,' like mass, charge, etc. In this way one can see how it is possible to `mediate' experience, which means to transcend the field of immediate evidence, without leaving the `whole of experience' as a thematic domain of inquiry. On the contrary, when a metaphysician says, e.g., that God exists, he does not intend that this entity be definable through the same predicates as the usually experienced things, but, quite the contrary, that it belongs to a different `whole' with respect to the `whole of experience.'

Till now we have discussed the legitimacy of holding the viewpoint of the `whole' along with the viewpoint of science and have found a sound foundation for this. We shall now proceed to see whether such a viewpoint, besides being legitimate, is somehow required. We shall see that this is actually the case.

THE NECESSITY OF METAPHYSICS

Let us return, first, to the remark that science aims at `understanding' reality. To do so, it has developed a special strategy of separating our many specialized domains of inquiry and building upon them adequate theories. It is through these theories that all the different domains can be thought of as organized `wholes' and `understood' one in relation to the other. But the task of understanding reality does not seem to be exhausted by this work which renders only a certain number of partial `viewpoints'. It is quite inevitable, therefore, that an effort should be made to `interpret' the results of scientific inquiry itself and compose them in a unified perspective. We might call such a further step an effort at `understanding the understandings' or, more simply at `interpreting the explanations' given by the different sciences. In fact, the concept of `explanation' is the one commonly employed to label the process of building up scientific theories for the understanding of evidential data in the different domains of research. We could say that the attempt to understand reality requires as a first step explanations of the different aspects of reality, followed by an interpretation of all these explanations which can bring them to unity. Again, the viewpoint of the `whole' appears decisive for the task of understanding and shows the necessity of complementing the partial views science can offer.

It is, on the other hand, worth noticing that the need to understand is something different from 'knowledge' as such; though surely understanding must be concerned with knowledge, it also includes an appreciation or evaluation of knowledge which, as such, cannot be included within knowledge proper. In other words, we could say that understanding comes from reflecting upon known things after they have been determined in a certain way by a scientific inquiry. This reflection has the double function of conferring an intellectual 'interpretation' upon them as well as that of 'giving a sense' with reference to something that already has a 'value' character. The philosophical notion of the 'reflecting judgment', borrowed in a way from Kant, seems to be the best suited for indicating something concerned with reason rather than simply with feelings or something of the kind, which expresses a view of the whole, which engages in some kind of evaluation and, therefore, somehow involves values. Surely one is entitled to employ the name of metaphysics in order to encompass all that for, speaking historically, metaphysics has meant at least such a completely encompassing perspective, directed towards an interpretation of reality, with the purpose of proposing for it a 'sense' which reflects some frame of values. This seems to us to be still a first legitimated sense in which one is entitled today to conceive a metaphysics along with the sciences.

But another question arises when we consider the fact that, historically speaking, metaphysics has often presented itself as a form of 'knowledge' and not simply as an 'interpretation' of reality. Is it possible to maintain this claim in our time? From what was said about the point of view of the 'whole' as distinguished from the viewpoint of the 'whole of experience,' we can say that such a possibility cannot be denied a priori, though it is too complicated a task for the present paper to show under which conditions the project of a metaphysics as 'knowledge' might be thought of as realizable. At any rate, this problem need not be solved in order to treat the question that is of interest to us here, namely, the relationships between man and nature. Can such a question be envisaged correctly with the help of scientific knowledge only, or does it also call metaphysics into play?

Beyond all doubt a metaphysical consideration cannot be dispensed with, because every possible proposal about the correct way of conceiving this relationship follows from an 'interpretation' of man and nature respectively, which cannot be attained by means of science alone. In fact, every scientific consideration necessarily unifies man and nature, but this happens simply because, as repeatedly noted above, every science must employ its own uniforming criteria or 'viewpoints' or 'specific predicates.' Though this fact is so trivial that it does not deserve special discussion, it seems to be so badly understood that we want to stress it. If one takes the point of view, e.g., of the color red, he will relate under this viewpoint a red pencil and a red butterfly. From this particular viewpoint, that is, as 'red objects', they are indistinguishable, there is a much greater difference between a red pencil and a blue pencil than between a red pencil and a red butterfly. But if one considers a butterfly and a pencil each as a 'whole', surely he will put the red and the blue pencil together and consider the red butterfly as something very different. Applying this to science, every science is done by instituting uniformities and deleting differences; i.e., by introducing at least one viewpoint under which things can be considered as uniform even if they differ under many other viewpoints. If this be the cognitive procedure of science, it can be easily understood that one can scarcely expect to discover differences between man and nature by continuously applying tools of inquiry which render only uniform knowledge of the two. On the other hand, if the two terms of the relation are not conceived as distinct the very problem of their relationship becomes immediately meaningless because identity is the only relation that can hold between two indistinguishables. It follows that only a metaphysical

perspective, which enables one to consider man as a 'whole' and nature as another 'whole' can provide the correct approach to our question.

Moreover, in order to study this relationship we need a broader viewpoint; we must conceive man and nature from the viewpoint of a 'whole' in which there is place for both. Such a viewpoint cannot be the rather general viewpoint of the 'whole of experience' because, from a purely methodological consideration, we cannot be sure that the adoption of this viewpoint, which despite its breadth is still specialized, would not lead us to neglect differences which cannot be perceived within it. The only methodologically correct position is therefore to adopt the genuinely general viewpoint of the 'whole' without specification, i.e., the authentic metaphysical viewpoint.

This attitude is the only methodologically correct one because it is the only one which leaves open all the possible issues. It is possible that, as a result of inquiry, one might discover a transcendence of man with respect to nature; but it is also possible that, as a result, one might conclude that man is simply a part of nature. The second result would imply that natural sciences provide the entire basis for understanding man. In that case, the conclusion would be correct; whereas were it to be reached from natural science it would be not the result, but the presupposition of the inquiry and, as such, would beg the question.

That a metaphysical consideration may be needed, can be inferred from a dichotomy in the study of man that is typical of our present civilization. On the one side, progress in biology, neurophysiology and cybernetics seems to indicate that modellings of man can proceed very far, the tools provided by the natural sciences and technology could suffice to provide an interpretation of man as a very sophisticated machine or, at least, as a product of nature with no right to claim privileged place among other natural beings. The result is a fully naturalistic doctrine of man, which conceives him very much like one of the usual 'things' in the world. The strange fact is that, alongside this general conception and frequently within the intellectual circles that adopt it, we find a strong protest against the so-called 'reification' of man, i.e., against the common trend to manipulate and exploit man, to treat him like a pure thing without respect for his dignity. It should be clear that the naturalistic anthropology expressed by the first point of view cannot provide a consistent ground for what is expressed by the second. If in the last analysis man has to be conceived like a machine or one of the many things in the world, there is no apparent reason for refusing to employ or treat him as one would a machine or other natural objects. In other words, because no room for values seems to be left inside science and technology proper, to react against the reification of man is to hint at the presence of some values and hence of a certain unexpressed and implicit metaphysics. It would be a great advantage to dig this out and to present it in all its explicitness. There is nothing wrong in having a metaphysics, while there may be great danger in having an unconscious dogmatic and hidden one.

Interestingly, a rather similar approach is now being developed towards nature. It begins to be perceived once again that nature is not the pure and simple collection of 'objects' to which man is entitled, not only to know, but to exploit, manipulate and dispose of in a completely arbitrary and capricious manner. More and more, nature is emerging as a complex 'reality' which must be considered as a 'whole' and, as such, possesses intrinsic properties that cannot be disregarded without danger. It is surely not a case of returning to a personification of Nature; nevertheless, serious people speak once again of some 'rights' of nature and of a certain dignity which may call for some 'respect' from the side of man. In other words, the language of values, too, finds a certain place within the discourse about nature and this indicates the need for an

appropriate metaphysics of nature. Such a metaphysics need not be conceived according to the old models which certainly were superceded by science.

It is, however, precisely at this point that the difficulty lies: today man is conscious of the urgency of interpreting himself, nature and his position within and in relation to nature. Science can offer him a certain amount of `knowledge' for the fulfillment of this task, but, as noted above, that knowledge, though necessary, is not sufficient. Whence will man complement this knowledge in order to satisfy his need for `understanding' himself and nature--from poetry or from some vague and generic intuitions? For individual needs such solutions may at times prove useful, but they cannot be of general use. Moreover, they are weak in that they are quite unrelated to scientific achievements, while what is needed are interpretations of man and nature which take scientific information into account, explain it and include it within a `whole' which gives it a sense.

If these are the requirements for a modern understanding of man and nature, it is practically impossible to avoid the conclusion that such an understanding can be offered only by a rational investigation which is in agreement with science without being confined within its accepted limits. It is the specific task of philosophy to provide such a rational inquiry; more specifically, it is the task of a philosophy which does not consider itself restricted to a simply `analytic' attitude. This constitutes an appeal for a metaphysics that is rigorous, rational and cautious, but also effective and courageous.

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CHAPTER II

DOES SCIENCE COINCIDE WITH OUR KNOWLEDGE ABOUT NATURE?

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The question of this study is: Does Science coincide with our knowledge about nature?

Our reasonable answer might be that we do not know the answer, for, to answer the question, we would need to possess a precise definition of science and a sufficiently encompassing knowledge of Nature to be able to see whether, under the present circumstances, the coincidence of the two is realized with a satisfactory approximation. Even this would not help much, however, for who guarantees that Science will always satisfy the definition adopted and that we do not lack an extensive body of knowledge of Nature concerning which at present we have no idea whatsoever and which may possibly escape completely the scientific enterprise.

History, on the one hand, may help us by suggesting some sort of evaluation, even of extrapolation. It is a fact that at one time *philosophia naturalis* signified what is meant by science today, that it had quite universal pretensions and that its precise subject-matter¹ was Nature. Even if it is true that in its time Newton's *Principia* did no more than explain the dynamics of inanimate point masses under the assumption that all their interactions were transmitted by forces, the *Principia* became the paradigm of what was to be the ever more encompassing science of Nature, viz., Physics. Science, insofar as it has developed in the tradition derived from physics, is therefore often seen as the only kind of knowledge we can have of Nature, no other knowledge in that field being considered authentic. Probably most scientists today would say so.

On the other hand, the word Nature is somehow assumed to cover the Greek *physis*, or at least the Latin *natura rerum*. Since *res* is the origin of the words *real* and *reality*, physics would have somehow to cover reality as the totality of existent things and of their classes and classes of classes. Their knowledge must then be some sort of intelligible, ordered and rational explanation of the 'nature' of these *qua* existing things, i.e., the nature of reality.

Now, the extent to which simple words can be understood is in a way unlimited. Under no circumstance can we limit it to anything fixed and final, for, apart from the fact that no living language allows itself to be restricted in that way, the very purpose of knowledge as the act of cognition is to extend its workings to ever larger frames. Hence, Science cannot be just one printed book or any number of books containing a finite number of propositions about a specific kind of thing.

Therefore, we should rather try to determine the 'nature of reality' and compare it with the 'kind of knowledge' Science represents before we restate the original question and try to answer it.

When we say 'nature of reality,' we do not use the word *nature* as if it were written with a capital N, that is, as a system of existent beings or an object susceptible of inner and outer relations. We use it instead as a lasting property, a necessary attribute, an essence. Thus, the same word sometimes takes on the meaning of existence, as in capital 'Nature', and sometimes of an essence, in spite of the Aristotelian opposition between these terms. One is nearly tempted to forge a monstrosity and ask, what is the 'nature' of that 'Nature'? Either this does not make sense, as it does not make sense to ask what is the elephant of an elephant; or if it does, in contrast to elephant, it must encompass enough to make it coincide with its nature. The question is not one of analyzing the language we use, but of understanding what we believe to be implied by that

which is covered by a word used throughout the ages with a concealed but deeply felt meaning. Its definition cannot be made explicit, nor can it be made implicit in the sense of Hilbert. The word nature is not a concept within a limited, hopefully axiomatizable system of science, but a notion. A notion is always deeply felt to correspond to a basic constituent of the totality of Being of which, however, no exact picture can be delivered. Time is another example of a notion, and it is well-known that neither Augustine nor any contemporary has succeeded in telling what it is.

Nature, then, is that which coincides with its own nature. The German language has a good word which cannot be translated into English or French: der Inbegriff. Nature, we might say, is the Inbegriff of all the natures of things. So, in a way, it is nothing but reality, i.e., the Inbegriff of the nature of things. I do not think that any one thing could be omitted by such a notion. Why should it? There is no sufficient reason to exclude anything from nature, unless it has 'no nature.'

The question arises, therefore: Are there 'things', which do not have a nature? The answer to that is, I believe: either No, if you confine yourself to existence; or Yes, if you take beings into account which do not need to exist in order to be. Rather than attempt to oppose essence and existence then, we ask, what is the difference between being and existence? This appears to be a more modern mode of inquiry. To my mind, the difference is that existent beings are beings in time, within time if you will, whereas beings qua beings need not be within time. I would exclude mathematical beings and 'beings of reason' (êtres de raison) which are not in time and whose being is not ontic, but at most ideal and fictitious. What else remains which is ontic without being temporal? Either nothing, if all things have been already counted among the natural things, or an infinite and capital Being usually called God. There could not be several gods, for each would have to be distinguished from the others by specific natures; this is excluded, since it would make a thing out of each of them.

There is nothing, then, apart from God which is not part of Nature. Those who cannot 'believe' in God are materialists--they might also be called 'naturalists'. The word 'believe' here is not endowed with a specific religious connotation, but it does indicate a notable difference between knowledge about things and belief in God. It might be remarked there is no knowledge of God in the sense of knowledge about Nature, unless God becomes incarnated. But that belief does not concern us here, it concerns religion.

Marxists usually term idealists all who are not dialectical materialists. This classification into two groups is one of the fundamental errors of Marxism today, for some--and I would personally claim to be among them--are neither Marxist nor idealist. Another error of Marxism is the pretension that all authentic apprehension of the natural things, i.e., of everything, has to be scientific. The scientific approach, however, is not the only one available. Certainly, anyone is entitled to restrict the word 'knowledge' to 'scientific knowledge'. But to declare then that there is no other would be a vicious circle. One should first understand what he wishes to signify by saying that he knows, and secondly find out in what the scientific approach consists. Then he can see whether they coincide.

As to knowledge, I have repeatedly written that it must be understood as an act performed by the human subject with the purpose of (re-)establishing a relation between his self and the being of things of which he becomes aware. At the beginning of his existence man is spiritually--or mentally if you prefer--isolated from the things around him and even from himself as a thing. This state of isolation becomes increasingly intolerable as one's awareness of it increases. Sometimes, in an attitude of contemplation, it leads the individual to abolish the need of establishing individual links between his self and the other individual things in their multiplicity and their diversity. This can happen very early in life as in the case, for example, of Ramana

Maharshi, or later on in life after the isolation has been overcome by other means. The contemplative attitude is a perfectly authentic modality of knowledge which, however, is not scientific. Surely, everyone will agree not to call it scientific, whereas not all acknowledge it to be authentic. Conversely, some consider it the only authentic one and scientific knowledge to be an illusion. There is then a kind of knowledge which is not scientific, not objective; moreover, it does not establish a link with Nature since its procedure is precisely to evade the diverse nature of things in order to contemplate the divine, which is not Nature.

At this point, one might be tempted to conclude that if there is a kind of knowledge which is neither science nor knowledge of Nature, then Science coincides with the knowledge about Nature. The fallacy in this conclusion is immediately evident: from having found one alternative mode of cognition it does not follow that there are no other modes. Indeed, if on the one hand there is within the contemplative attitude or modality only that one mode called mystic, there are alternative modes to science within the other modality which proceeds by judgment. An example brings this vividly to mind.

Imagine a valley covered by grass, trees and other vegetation. Considered as a whole the valley appears green. A geographer could produce a map of the valley indicating its green-ness by some conventional sign and using different signs to distinguish grass from trees and other kinds of vegetation. He could even paint or print them in various shades of green to objectively reproduce the shades of the various species. As a scientist the geographer would measure the areas covered by woods and grass, put the towns in their right positions on the map and so on. Some twenty-five years ago, however, the Welsh poet Llewellyn wrote a book which he entitled *How Green Was My Valley*. His readers recognized a valley and got to love it as much, though quite differently, than if they had known it from the map. The book was not a piece of science, it was a work of art.

When Rabindranath Tagore founded his School at Santiniketan, he knew that one can teach by poetry, music and the arts and that this can aid children to mature as well as teaching by physics and the sciences. He knew also that poetry and the arts yield an understanding of the things surrounding us which is as excellent, trusty and valuable as the objective approach typical of science.

The valleys and towns, trees and blades, stars and atoms are things of nature and in Nature. I can approach them objectively, i.e., as objects to be counted and measured, cut or analyzed by chemistry, spectroscopy, or another science. I can write protocol notes about my findings, by induction I can propose laws about their behavior, and I can deduce from these laws what these objects presumably would do under such and such hypothetical conditions. I can even verify by experiment whether my deductions coincide with their actual behavior when they are placed in a situation described by the said hypotheses. This is the way science works; it is always done objectively. Blaise Pascal taught how to do it exactly by doing it himself in proving the possibility of the vacuum outside the terrestrial atmosphere: a typical saying about the nature of things.

Nevertheless, there remains one difficulty. The scientific reconstruction of the workings of Nature may be very accurate, but it is never totally or 'absolutely' accurate; its accuracy is valid only within the limits of an approximation. The approximation is due to the fact that, though we approach Nature, we never possess it. A scientific description is to Nature what a glove is to the hand or clothes are to bodies. The scientific enterprise looks like the attempt at possessing the body, at raping Nature as if she were a maiden; but the rape never succeeds, though scientists naively often believe that it does. Here, for the second time I am using the term 'believe'. There

is a belief in science which is akin to the belief in a god in religion. The religious belief implies both confidence and awe, both of which lead to a devotion towards the capital Being recognized. The scientific belief implies a comparable feeling and the certainty that something, rather than nothing, is there inside the clothes. It is like a hand being within the glove or, better, bodies within the clothes as they are called in Newtonian dynamics. These bodies are believed to look exactly like the inside of the clothes, like the `contents' of the laws, although nobody has ever possessed such a body totally and absolutely. The scientist is confident that Nature consists of such bodies, and each time he finds that he has too grossly conceived some sort of body he replaces the image by a more elaborate one. Thus, he declared the larger bodies to be composed of elements, calling them too soon atoms, for these in their turn must be declared to be composed of particles, which in turn yield to sub-particles, etc., without end. Yet, in spite of this never-ending replacement of gross entities by finer ones, he still believes in the existence of things or of a Nature as the real content of his successive speculations, which he calls theories involving laws.

Only the philosophers, especially the logicians, could be so mean as to say that perhaps the laws have no such content and that perhaps the words of scientists concern nothing but pure constructs. When I was a young student, it was the fashion among many philosophers of science to say this. But Max Planck dissented and claimed unshaken that no scientist can fail to believe in the real existence of the things in Nature.

Let us return now to How Green Was My Valley. The arts are very similar to the sciences. Certainly, there is the fundamental difference between physics and music, biology and painting, metaphysics and poetry inasmuch as the sciences are objective, while the arts are subjective. Indeed, the former abstract from the concrete and establish theories from facts, whereas the latter produce concrete realizations from ideas. Nevertheless, just as the former theories and laws are but approximations of an assumed real content, for the latter concrete works of art are but approximate representations of ideas conceived. These ideas are always ideas about things and their inter-relatedness, even though on the whole--especially in modern art--concrete works may not photographically or phonographically resemble objects as seen by the eyes or heard by the ears. An idea is always an idea of . . . or about . . .; therefore it implies the relationship of the properties of beings among themselves. Hence the creative artist experiences them as feelings; his attempts to concretize them are the forms taken by his subjective judgments and may be more or less adequate to the idea itself. The degree of adequation of a work of art to the conceived idea is similar to the degree of approximation of the theory to the assumed content. These two enterprises, art and science, are one and the same as apprehensions of the existence of things, while contrasting one to the other in their modes of judgment.

On account of this sameness, both science and art apprehend Nature, for both deal with the reality of things and show how they are and behave as we experience them. In art, however, Nature is made comprehensible subjectively, whereas science makes it comprehensible objectively. This conclusion is a very important step in answering the original question: Does science coincide with our knowledge about Nature? The answer is definitely No, since there is at least one field comparable to science in size and originality which is part of our knowledge of Nature and differs from science as a mode, viz., art. There is a particular problem concerning poetry. This is often considered apart from the `other' arts, though it is an artistic activity.

Is there on the objective plane an activity which similarly stands apart from the sciences and is yet a `science'? There is; it is metaphysics. Here, significantly, metaphysics should not be understood as meaning philosophy itself. Rather, it is the kind of ontological research that is

concerned with the apprehension and comprehension of being notwithstanding their temporal existence. This requires a procedure for transcending the temporal nature of things. Hence, in that sense, metaphysics is not a study of Nature, for Nature is the Inbegriff of the natures of things qua things in their temporal existence--here the phrase `temporal existence' is a sort of pleonasm, since the existence is always temporal. Thus metaphysics, though objective by the nature of its judgments, is not a science proper since it judges on the basis of an experience of beings without attending to time, whereas the sciences proper judge on the basis of an experience of things as within time. I would not object to saying that metaphysics does not deal with Nature. If it is to make sense, however, it must be related to the sciences proper in the way just described. Thus, metaphysics assumes Nature in order to be able to abstract from it by leading its existence back to a timeless being: that is its ontological concern. Metaphysics is the knowledge of the ontic, but not of the existential.

The same applies, mutatis mutandis, to poetry which is also concerned with the timelessness of beings; it starts from ideas of timeless beings and works them out in words. Poetry lacks the concreteness of works of the arts, though of course the print or voice are very concrete. With metaphysics, it preserves an element of abstractedness which keeps its works from being pieces of the natural world. The corresponding experience of the ontic world with which they deal by poetry and metaphysics is, if not alien to, yet different from the experience of natural things which pertains to the sciences or the arts proper.

This does not mean that works of the arts other than poetry change in time. They may involve time as in music, dance, mobile and the like, but they do so in a way meant to suspend time as the support of existence, for if a thing is to be the representation of an idea it must be in a sense devoid of time since every idea is outside time. Also science yields laws and systems of laws whose mere validity, that is, whose noncontradictoriness and adequateness to reality, make them devoid of time, even though they describe the temporal behavior or real existence of the things.

`Poetry and the arts' is thus a phrase analogous to `metaphysics and the sciences'. This gives by analogy a statute to metaphysics which is in a way much clearer than many vague representations of the work of metaphysics and protects it from the attacks of positivists and others on the plane of objective research.

We could say, on the one hand, that, if we want to define Nature in its mere relation to the scientific or objective approach, Nature is the assumed existing contents of the laws and theories of science which are themselves timeless on the basis of their abstract validity. Hence, to abstract means to abstract from time as well as from concreteness. On the other hand, Nature in its relation to art and the subjective approach is reality manifested through the concretization of ideas felt as valid. This concretization also takes account of the character of timelessness, although the works themselves become and appear as endowed with temporality in order to embody the nature of existent beings.

This raises the question: Are Science as the objective mode and Art as the subjective one the only apprehensions and comprehensions of Nature? One who would prefer to limit the use of the word Nature to the assumed existing contents of scientific laws only, rather than extend it to the reality manifested in art, would of course close the debate and answer: Certainly not, since to his mind the extension to art already exceeds the commonsense of reasonable vocabulary. Since, however, science and art pertain to the same final matter called Nature--which could be said to be an `object-matter' in the one case and a `subject-matter' in the other²--it is reasonable to ask whether that is the end of the apprehension of Nature or not.

To that question, the answer is: No, for there is indeed a form of the interrelation between subject and object which is neither realized in the things called works of art nor idealized in the systems of laws called theories. It consists of the usages and manners according to which subjects and objects interact. When subjects and objects are both human beings and interact, these manners in their organized totality are called morals. It is commonly believed--and this is the fourth use of the word--that they result from a conscious reciprocity on the side of both partners. However there is no difference of principle between these human morals and, say, the ways in which a master acts towards his dog or horse and in which these animals behave by reaction. There is similarity also to the ways a stonebreaker prepares the pavement of a causeway, since the stones have to be chosen and broken in a 'manner' suited to the purpose and they split according to both their nature and the stroke of the hammer. In their interaction subject and object are mannerly, i.e., morally interrelated. It is generally believed that there is a choice of good manners, preferable to all other choices and adequate to the nature of these subjects and objects in their relatedness. This indicates that morals is also a mode of apprehension of Nature, for natural things are involved in it in their existence or, more properly, a coexistence resulting from the desire of the subject to establish a link with the object different from the objective and from the subjective modes.

There, too, there is a meaningful pursuit or research carried on without the temporality of that coexistence. That pursuit, however, must take place without the existence of two different partners, else it could not escape the timeliness (as opportune temporality) of their coexistence. Therefore, the 'metaphysical' analogue in morals is the morals of the person, where the subject is in interaction with his own self and which--unaware of any particular timeliness--can only be displayed in the mirror of the unchanging capital Being. As in poetry and in metaphysics, the natured-ness of the relation between subject and object evanesces. In regular morals which implies community, i.e., the particular concerned coexistence of beings, however, a Nature is thought to support the morals. Otherwise, why should the manners be chosen as they are, even if each choice cannot be better than an assumed good choice for the partnership to be successful (the quality of the good being weighed by the success of the choice)?

Thus, all judgments of value--whether of truth in science, of beauty in art or of the good in morals--concern a Nature which is believed to be there as a reason of the activity and a source of experience. Though grounded in the empirical order, values would not be understandable without the theoretical, the ideal, or the ethical. If there were no such Nature, why should we act at all? All would be mere convention and hence arbitrariness; no pragmatic relation between the mind and reality could exist and be understood.

In other words: Nature is what keeps activity from being arbitrary. Hence, if we hold that our judgments are not arbitrary, we must believe that a Nature is there to be approached as nearly as possible, that Nature is one and as comprehensive as possible. It is also comprehensible, however, for if our knowledge is not exercised on a vacuum--which would constitute an illusion--then it is exercised on Nature.

Science is one royal way to grasp Nature, but it is not identical with our knowledge about Nature.

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NOTES

1. I would prefer to say: object-matter. See below.
2. See footnote 1, above.

CHAPTER III
SCIENCE AND NATURE
ERROL E. HARRIS

THE IDEA OF NATURE AND ITS DEVELOPMENT

Science is the effort to think systematically about the world as we experience it, and the results of that thinking. Apart from such systematic thinking no conception of Nature would be entertained. The idea of Nature is the concomitant of science for it is the idea of the world as a single structure of interrelated bodies and events determined by uniform and universal laws, the indispensable presupposition of scientific thinking. A view of the world as a fortuitous collection of spirits and their arbitrary behaviour is not an idea of Nature, nor even of a world created, sustained and manipulated by a single god. Rather, the idea of Nature is that of a self-sustaining, self-activated world, producing its own phenomena according to its own intrinsic laws of activity. This is the necessary presupposition of science, because the aim of science is rational explanation. This is possible only if the phenomena to be explained are determined by principles which are regular, universal and intrinsic to a unitary and coherent system.

Accordingly we find the idea of Nature emerging in the West concurrently with the scientific thinking of the early Ionian philosophers from Thales onward. First, the nature of things or what determined their mutual disposition and behaviour was conceived as the stuff of which they were made; the unitary, systematic relationships among them was preserved by regarding this substance as fundamentally one and pervasive. All things were held to be water, or all air, or fire; their diversity was explained as the differentiation of the one fundamental stuff or nature according to a single principle of change such as rarefaction and condensation. Hence, the idea of Nature was extended to the general way in which things are constructed, interrelated and mutually affected. Scientific treatises were those 'on the nature of things', and they explored precisely these features of the contents of the experienced world. Finally, the world as a whole, as a system of interrelated entities governed by universal laws, came to be thought of as a single, individual Nature, which was frequently personified and conceived as ubiquitous, omniscient and all-inclusive.

To the Greeks, Nature was one vast, living, self-moving, sentient and conscious organism in which human and other living beings were localized centers of the pervasive soul-substance. In the last resort, this soul-substance was identical with, and the pure form of, that ultimate stuff or nature of which all things were made. The lesser souls, whether of gods, man, or animals, were differentiated by varying degrees of adulteration of the original stuff by its own less appropriate forms. The problem for the Greeks, both metaphysical and practical, was how the human soul could purify itself and become wholly reidentified with the universal substance.

The birth of modern science in the 16th century produced an entirely new conception of Nature. The cause and the stages of the revolution are familiar and can be passed over here. Only the final result need be mentioned. With the development of the notions of gravity and inertia, Nature came to be viewed as an aggregation of bodies which moved under the influence of mechanical forces dependent solely upon their mass and position. Nature was thus seen as a vast machine.

As is well-known, this conception involved a cleavage between the machine as the total aggregate of material existence and the conscious mind, whether of God as its putative creator or

of man as the subject of scientific knowledge. Various attitudes toward Nature arise out of the dichotomy so created. Nature is first the object of human knowledge, set over against the knowing mind as an alien other to be observed from without. Next, as science succeeds in discovering natural laws, Nature becomes an opponent to be conquered and controlled, a combination of force to be subdued and domesticated in order to serve the purposes of man. Subsequently it becomes apparent that Nature in the service of man has limitations, that resources of matter and energy can become exhausted or so modified that man's purposes may be defeated by the very technology he employs to serve them.

Supervening upon these attitudes toward Nature, however, a third conception has arisen which complicates more radically the relation between Nature and man. This new view emerged with the conception, in the mid-nineteenth century, of the idea of evolution. Henceforth Nature could not be regarded simply as a machine, but was conceived as a process of continuous development. Laws of mechanics are reciprocal and reversible, but an evolutionary process is unidirectional and progressive. Further, under this conception of Nature, man is recognized as a product of evolution and his knowledge as the outcome of biological development. His relation to Nature now comes to be envisaged in terms of that between organism and environment. The effect of this modification was not immediate or total, although its implications were revolutionary. Environment, at least in the first instance, was still regarded as external and set in opposition to the organism which must adapt itself to alien conditions in order to survive. Man's adaptation follows upon that of lower species, which involves the development of sensibility, sense-organs for distance reception and cognitive apparatus. His capacity to know and to act intelligently, his conquest and control of Nature, his social and technical advance, are thus seen as aspects of his adaptation to environment.

So conceived, social progress, though very different in character and in principle from biological evolution, appears as an extension of the same process. Yet, as it proceeds, the development of human social organization with its accompanying technical advances reacts upon and bedevils biological adaptations. Species are decimated, energy sources are tapped and drained, the ambient life-giving envelopes of atmosphere and sea are polluted and the balance of Nature is upset.

With the advance of biological science and the study of ecology it has become apparent that the idea of adaptation of organism to environment was a misconception, for the environment is not static, nor is it a mere external setting for indwelling life. Evolutionary change involves the environment equally with the living thing. The two constitute a single organic whole, an open system in dynamic equilibrium. Modification of, and 'control' over, the environment, therefore, becomes less a means than a menace to human survival; the exploitation of Nature becomes more inimical than advantageous. Voices are then raised advocating conservation, which involves a conflict between the demands of technical progress already made and those of environmental preservation. In some sense the demand is for a reversal of the evolutionary process, which runs counter to the very conception of evolution itself. The use of technology to mitigate the ravages of technology is severely limited. The preservation of resources can be effected by new techniques only at the expense of other resources. Pollution of atmosphere and water can be limited by new devices but not eliminated. If population can be controlled, consumption may be limited, but the demand for progress and 'development' will still persist. The evolutionary process cannot be arrested, nor is it obvious that the results would be beneficial if social progress could be reversed.

The idea of Nature hitherto engendered by science seems, in its effects on practice, to have led men into an impasse or a labyrinth. To escape from this man needs a new guiding-thread in the form of a new conception of Nature and of his own place in it. Is there any evidence that contemporary science gives any promise of such a change? I think there is.

ORGANIC WHOLENESS

The conception of Nature as an evolutionary process, while remaining valid and fundamental, is in certain respects only provisional and transitional in modern science. Its adoption formed a bridge between mechanism and organism, providing for the emergence of the latter from the former; but it also served as a means of reducing the organic to the merely mechanistic. The dominant and characterizing feature of living things is their capacity for auturgic self-maintenance. This propensity has never been wholly explicable; in the last century it was attributed by some thinkers to a mysterious vitalistic principle or entelechy. This perpetuated the cleavage between the animate and the inanimate and ran counter to the principle of evolution which requires that the process of change from the inorganic to the organic and organismic be conceived as continuous. The Darwinian version of evolution which is the most prevalent and best attested, alleges as the 'mechanism' of the process nothing beyond chance mutation and natural selection, excluding any vitalistic principle, teleological influence or orthogenesis. Evolution, in consequence, comes to be regarded as a series of random changes in physico-chemical processes, leading by some form of natural selection to more and more complex forms from which have emerged the numerous diverse species of living things. The speculation that life has evolved from the non-living is, accordingly, accompanied by the conception of living processes as no more than highly complex chemico-physical activity. Reductionism became and retains the ideal of scientific explanation. Such reductionism is the counterpart of the technology which seeks to manipulate the processes fundamental to life and ecology.

What this approach overlooks, though inevitably it must and tacitly always does assume it, is the integral, poly-phasic coherence of the organism and the consequent forms of its self-maintenance through growth, regeneration and reproduction. Without the dynamic coherence of living entities there could be no evolution and nothing to evolve. Adaptation is meaningless except on the presupposition of a systematically unified and self-maintaining organic whole which maintains itself precisely by means of such adaptation. Without self-reproduction mutation is equally meaningless; apart from organic integrity, selective advantage is an inapplicable concept.

Organismic wholeness is thus the indispensable presupposition of evolution. Even the most radically physicalistic of biologists, Jacques Monod, has declared the fundamental distinguishing characteristic of life to be 'teleonomy', the quasi-purposive determination to systematic wholeness. In essence 'teleonomy' is the dominance of constitutive parts, functions and processes by the structure or the total organic system. This factor, whatever it is, maintains or increases negative entropy in the ordered whole by mutual adjustment of its constituents, both among themselves and to environmental variations.

The mechanistic and the Darwinian conceptions of Nature both involve some form of antithesis between the purely physical and the animate. In the former it is a stark dichotomy between matter and mind, in the latter it is the persistent contrast of organism to environment. The thorough-going organismic conception of the biosphere recognizes the unity and systematic

interconnection of organism and its ambient world. It is not merely that the organism itself is an open system which, in constant commerce with its surroundings, exchanges matter and energy in continuous flow. There is also a symbiosis among contiguous organisms forming a biocoenosis, limits to which can be set only relatively. In the final analysis, therefore, the whole biosphere is a single organic whole. Nor can we stop here, for the description of the earth as a series of envelopes, lithosphere, hydrosphere, atmosphere, and so forth, is valid only for limited purposes. These, along with the biosphere, are intimately interdependent and the whole earth must be taken as a single organic unity.

Lewis Thomas, giving expression to this idea which is perhaps the most recent development in the concept of Nature, writes:

I have been trying to think of the earth as a kind of organism, but it is no go. I cannot think of it in this way. It is too big, too complex, with too many working parts lacking visible connections. . . . If not like an organism, what is it like, what is it most like? Then, satisfactorily for the moment, it came to me: it is most like a single cell.¹

He returns repeatedly to this theme:

Jorge Borges, in a recent bestiary of mythical creatures, notes that the idea of round beasts was imagined by many speculative minds, and Johannes Kepler once argued that the earth itself is such a being. In this immense organism, chemical signals might serve the function of global hormones, keeping balance and symmetry in the operation of various interrelated working parts, informing tissues in the vegetation of the Alps about the state of eels in the Saragossa Sea, by long, interminable relays of interconnected messages between all kinds of other creatures.²

As seen from the moon: "Aloft, floating free beneath the moist, gleaming membrane of bright blue sky, is the rising earth. . . . It has the organized, self-contained look of a live creature, full of information, marvelously skilled in handling the sun." The atmosphere is conceived as a membrane "able to catch energy and hold it, storing precisely the needed amount and releasing it in measured shares."³

Not even the earth taken as a self-contained unit, however, is separable from what lies beyond its atmospheric skin. It is integrally dependent on the stream of solar energy and inextricably involved with the whole solar system. Then comes the cosmological physicist to assure us that no terrestrial phenomenon is isolable from its interrelations with the rest of the universe in both galactic and extragalactic space.

The outcome is a conception of Nature as a single, individual totality, organismic throughout, in which distinctions are always relative; partial elements are always determined in their individual form and detailed behaviour by the over-arching pattern of the totality.

DIALECTICAL PROGRESSION

It is not simply that the idea of Nature in the advance of science has come full circle and returned to that entertained by the Greeks. In some sense this has occurred, but the new conception is much more elaborate and sophisticated than the original one; it is rather a combination and reconciliation of the two opposite notions of mechanism and organism. The

earlier mechanism rested on Newtonian physics, which has today given place to Relativity and Quantum Mechanics. Physics, in our time, has ceased to be mechanistic and has even adopted a conception of matter which is itself non-materialistic. Contemporary physics is as teleonomic in principle as contemporary biology. It is by the whole structure of the physical world that its details are determined. The curvature of space-time dictates the laws of gravitation and electrodynamics and fixes the fundamental physical constants. The enfoldment of space manifests itself as energy, wave systems suffuse the whole of space, and the superposition of waves appears as material particles. The structure of energy fields determines the interlocking of particles in the atom; in turn, their mutual disposition determines the form of the molecule and its chemical valency. From these again arise the artistry of crystalline forms; no hiatus is found between them and those aperiodic crystals which are the foundation of the chemical cycles of living metabolism.

Each level provides the basis of that which succeeds, yet on every level the characteristic properties of the appropriate entities depend upon their total structure. They are 'co-operative properties', impossible for less complex entities. Atoms have properties impossible for free electrons; molecules evince chemical affinities which are dependent solely upon the pattern of combination of their constituent atoms and are not characteristic of any atom in isolation. This is especially true of the macromolecules involved in the activities of living matter, which are not feasible at the inorganic level. It is the structure of each whole that determines its propensities; and structure is always whole, for it is not what it is unless structurally complete. We find, in consequence, that throughout the entire scale of natural forms, wholes predominate over and determine their parts. 'Totum in toto et totum in qualibet parte' is true at every stage.

Consequently the cosmic organism, while it is one and indivisible, is at the same time a range of developing phases which can be represented and can display themselves as an evolutionary scale. The totality is constituted by the scale of its internal forms; each level is in some sense self-contained and all-pervasive. Yet, each gives rise to the next higher level by virtue of the potentiality infused in it by the immanent principle of the totality of which it is no more than a phase. This is an idea of Nature, not merely as an all-embracing living animal, but as a dynamic organismic system, comprising a continuous range of wholes on levels of progressively increasing complexity and integration. They are wholes in mutually dialectical relation, so that the entire system manifests itself as an evolutionary progression.

The dialectical relation is complex, for the wholes which it relates are each, in one aspect, self-contained and self-dependent, and, in another, mutually implicated and inseparably interrelated. Essentially the relation is serial, each whole being a fuller and more adequate realization of the systematic principle governing the entire series. Thus, each is related to its predecessors as their fulfillment, requiring and incorporating the prior forms while actualizing potentialities of which they were incapable. For this reason, while the subsequent involves the antecedent, it also supersedes and, in some sense, negates its forebears. Each whole, then, is a grade or developmental stage within the total series, but also a distinct relatively self-subsistent phase standing in contrast and opposition to its neighbors. Yet, because this opposition is resolved in the next higher phase which preserves the contrast while superseding it, the entire series remains continuous and coherent.

MAN'S RELATION TO NATURE

The relation of man to nature has now to be understood in the light of this dialectical conception. Human personality, developing within social structures peculiar to its appropriate level in the scale, is integral to the whole. On the other hand, as one level distinct from others, it confronts the prior phases as other and opposed. This is only one aspect of its relation to them, however, for they are also its forebears and progenitors in which the potentiality of its emergence is instant. What man sees as Nature is his own self in becoming; but more than this, it is the very matrix from which his very being is contrived and the soil out of which he is nourished. It is not that man has power to exploit Nature, rather, man is molded and engendered by Nature. This, however, is not as physical entities are determined by mechanical forces, but as a higher phase of integral totality determines and specifies itself within the matrix of pre-existent levels of being.

Three major metaphysical questions arise out of this conception of man and Nature. The first concerns the individuality and self-identity of man as a person, the degree of his self-sufficiency and freedom. How far is his identity submerged and overwhelmed in such a conception? If, *prima facie*, it may seem to be fatally subordinated to an all-absorbing totality, two considerations forbid any such conclusion. Apart from man's thought and self-reflective consciousness there would be no idea of Nature. It is his own self-determining and free thought that makes him aware of his world and his relation to it. Hence, whatever idea of Nature science generates, it is man's own science, his own construction, his own judgement of the world and the self-made interpretation of his own experience. It cannot, therefore, be wholly subordinated to, and submerged within, the totality conceived as Nature. Further, this reflection is not in conflict with that conception itself, for it concerns a totality which is self-generating in a scale of forms each of which is more self-complete and self-maintaining than its predecessors. The human mind supervenes at a relatively highly-developed stage; accordingly, it represents a high degree of self-sufficiency, integrity and self-determination.

The second major question is that of the ultimate character of the totality. Is it, as a whole, a consciousness self-aware of its own identity? Or is it a mere schema correlating its diverse phases as we have conceived them? The latter is hardly plausible and is not consistent with the conception of a scale of concretely existing phases. In the first place, far from being a mere schema, the totality must be seen as a continuum of interwoven forms; secondly, among these forms human personality is one of the more highly developed, though in obvious ways incomplete and limited. Whatever transcends human consciousness can hardly be something more abstract, more diffuse and less integrally whole. The implications which follow upon this reflection demand to be worked out in detail.

From these two questions a third follows naturally. How does human life and purpose relate to the totality in which it is integral? What sort of self-determining conduct on the part of mankind is most appropriate to the conception of Nature above outlined? The aspiration to conquer and control Nature is now revealed as arrogant folly, liable to lead, as seems probable in our own day, to self-destruction. Man must somehow see himself as the instrument of Nature's own purposes, which his science must divine and follow. If we are to live successfully, satisfactorily and virtuously, perhaps in a new and more significant sense we shall have to revive the ancient exhortation to live according to Nature. That does not mean, however, that we must revert to what is primitive. It implies, rather, that when Nature is adequately understood the general direction of evolution will be seen more clearly, and human action and policy can then be properly aligned and assimilated to it.

Though these three questions are fundamentally metaphysical, they have consequences for ethics, social theory and technology. None of them is wholly new, but each requires

reconsideration and must be reformulated in the light of a new conception of Nature. Nor are they wholly separable, for the answer to any one is implied in, and implies, the answer to each of the others. They are questions too large and difficult to receive in a single paper the treatment they deserve. Hence, I shall not attempt to do more than indicate how I, myself, might approach the answers to them.

The Freedom and Individuality of Man

If wholes are indivisible and teleonomic and in all cases determine the nature and behaviour of their parts, and if the parts are thus reduced to integrants or moments within their wholes with no really independent existence, would men not be reduced to mere puppets whose strings are manipulated by alien hands? Nature as the whole to which they belong imposes its laws upon them. Does it make any difference whether they are mechanical in the old classical sense of that word, or organismic according to the new view of Nature suggested in this paper?

It does, indeed, for the totality is not just organic, but dialectical and issues in a whole on a level superior to organism. The organic is superseded and sublated in the psychical and epistemic. Consciousness and intelligence supervene upon organism and the higher phase, not the lower, is the dominant determining factor. Nature conceived as one vast organism is not a stupendous protozoon or an all-pervasive slime mould. The more the totality under consideration is advanced in the dialectical series, the more fully and distinctly it is articulated. Though its elements are inseparable, they are nevertheless distinct; and the more highly developed the whole, the more completely it will be differentiated. Even at the organic level we find, not just one vast organism, but innumerable, exquisitely variegated and diversified organisms organically interrelated. At any super-organic stage, therefore, we should have a totality differentiated into individuals each of which is more than merely organic.

This is precisely what we do find. In the higher animals (at least) organism supports and burgeons into conscious mentality; at the human level intelligence reaches the pitch at which social co-operation and theoretical reflection are possible. Only here does the capacity develop to frame an idea of Nature, itself testimony to a high degree of self-consciousness and all that this implies. In spite of what might be considered undesirable mystical associations, it would not be inappropriate to call this the spiritual level of the dialectical sequence.

If we review the entire course of that sequence, as the scale advances we observe a continuous increase in the self-sufficiency and self-determination of the elements at each successive stage; this applies equally to the differentiations and to the totality. Therefore, at the spiritual level the elements should be spiritual, that is, self-conscious, intelligent beings capable of a high degree of self-direction and self-determination. Their interrelations will be equally spiritual, or what we more ordinarily call social; and the totality of which they are members will be a community. What we are outlining here is nothing less than the condition of individuality and freedom.

Freedom is not, despite frequent misconception, an indeterminate capacity to do all and sundry according to the unpredictable and unaccountable caprice of the agent. Unregulable caprice is not freedom, but insanity. On the other hand, external determination equally precludes freedom. Intelligently directed action, however, is self-determined, because intelligent thinking is neither more nor less than the self-specification in conscious thought of a universal principle. Deliberate action, which depends on such self-determined consciousness, is the only sort of action which is really free, and only an intelligent being is capable of it.

Now such capability supervenes only at levels of development subsequent to organicism. It is at the super-organic level, which is both dependent on and regulative of the organic reactions that subserve it, that the capacity for thought and action emerges. (Below this there can be no free individuality; hence, to call that independent would be a mistake. It is independent neither of its organic matrix nor of the social whole that it both generates and sustains, and which it nevertheless requires for its own efflorescence.) The totality characteristic of this superorganic level, therefore, is a spiritual whole, approached through a social order and determined by rational self-awareness. It is thus a self-differentiating whole; it actualizes itself through and in self-conscious, rational individuals, just as analogously the organic totality specifies itself in and as determinate organisms. The analogy, moreover, is more than mere accidental similarity, for the self-conscious individuals are themselves organisms; in them organism realizes its potentialities.

Obviously there is far more to be said about this matter. The essential nature, the process of development and the structure of an intelligent self-consciousness as well as its social character give ample scope for further development. Here, I wish only to indicate the groundlessness of a possible objection to the idea of Nature that I have adumbrated, namely, that it would submerge and obliterate human personality.

That this is not the case becomes apparent when one reflects that free activity, understood as self-determined, is characteristic of all levels of natural process. It is only under the influence of the older, Newtonian physics that we tend to think of mechanical action as crassly determined. But contemporary physics is, as I have maintained, teleonomic; and whatever is a whole determining its own elements is self-determined and to that extent free. Organic activity is a still higher degree of freedom. Metabolism is the self-regulating process of the organic system; it has been described by Hans Jonas as the first realization of freedom. So we go up the scale: physiological processes are homeostatic, that is to say, self-regulating; they constitute the next degree of freedom. Instinctive behaviour is a grade higher, and then intelligent conduct. It is the new conception of Nature that preserves the conditions of human freedom, rather than destroys them. It is more compatible with human personality than any of the prior conceptions of Nature.

The Ultimate Character of the Universal Whole

Development of the last topic naturally leads to reflection upon the second question raised for discussion. Is the universal totality merely a logical schema? Is it a spatio-temporal or a taxonomic structure? Or is it at once all these and more besides, namely, a living, self-conscious, spiritual being? Of course, the first two descriptions must be readily admitted, but they cannot be exhaustive. No dialectical system such as I have posited can be limited to a mere logical schema or even to an evolutionary series extended in space and time. The dialectical relations require that the prior phases be retained, sublated in their successors, even though they are superseded by them. Equally, the only complete and full reality which the prior phases enjoy is the realized actuality of their potentialities in the higher forms. Without these the more primitive cannot even exist because it is the immanence of the ultimate totality which brings them into being and makes them what they are. Our best and in the last resort perhaps our only clue to the nature of this ultimate reality is the highest stage with which we are acquainted. That, we have seen, is the self-conscious, personal and inter-personal. Can the existent universe as a whole be conceived as a being of this kind?

The answer, of course, is implicitly given in religion, which postulates a supreme being of the kind required. But that is not a complete or a distinct answer, because the question remains how we are to conceive the Deity. Not only do different religions give us different conceptions, but none of them is in itself clearly intelligible, for all are veiled in imagery or described in figurative language. No doubt that is unavoidable when finite minds seek to comprehend the infinite, but the metaphysician must strive to penetrate the obscurity, to interpret the metaphors and to give the imagery meaning.

What we have so far maintained is that the universe is one single, indivisible whole, that it is self-specifying, self-differentiating and proliferating as a continuous scale of inter-dependent forms dialectically related. Each form is itself a whole, self-differentiated in its own way and according to the principle operative at its own level. The later is superior to the earlier, inclusive of all that precedes and the fruition of prior potentialities. Each successively is a more articulate, more fully integrated and more self-determinately whole than its predecessors. Accordingly, the whole gamut is sublated and summed up in the final form, the extended series of its phases being not only compatible with, but necessary to its all-encompassing unity.

If we have been correct thus far, it should follow that the highest form hitherto experienced, human mentality, is the closest analogy to the ultimate nature of the absolute whole. In that case, it must involve something like, yet somehow transcending, self-conscious personality. It must involve and yet transcend some form of organized community. It must be at once a physical, organic, intelligent, moral and spiritual whole, of which we (with all that is implicated in our nature) are integral members.

So regarded, Nature cannot be limited to what we discover through the physical and biological sciences. We must add to these the social, psychological and philosophical sciences, and must reflect upon the combined results of them all, if we are to arrive at an adequate metaphysical conception. Nature can no longer be thought of as the merely physical, devoid of all psychical and conscious elements, that is, as the sort of abstraction by which it was represented in the nineteenth century. Far from excluding man and his mind, far from standing over against and opposing humanity as something to be subdued and exploited, nature and mind are to be seen as one; matter and mind are fused into a single reality, as body and mind form one person.

Once again, the implications of all this demand further development than the scope of this paper will permit. But if we cannot now go further, what I have already said may give some indication of the answer to our third question: How does human life and purpose relate to the totality in which it is integral?

Man's Relation to Universal Nature

From the position set out it would seem to follow that the relation between man and Nature must be sought at the upper end rather than in the lower or middle strata of the scale. The whole, in its ultimate character, is of the nature of mind involved in and involving the interpersonal relations of a community. That again presupposes and sublates the biological and the physical. In relation to the whole, mankind must be seen as a single community, a kingdom of ends, the undivided interest of which is to maintain the integrity of the world that it inhabits. That maintenance is a responsibility for man; hence, his relation to Nature is ethical, rather than simply biological or technical. The conception we need is that of a spiritual community of persons, mutually responsible for the welfare of all and for the material basis on which that

depends. Nature must be pictured as man's Garden of Eden of which he is the latest product, the latest species generated in the process of its self-evolution. As its intelligent progeny, he has the responsibility of keeping it fertile, healthy and beautiful; he must be its cultivator not its exploiter. His is a moral responsibility at once to Nature and to his fellows, that is, to the ultimate totality. Therefore, it can be fulfilled only in a spirit of unreserved self-giving if it is to be fulfilled adequately. It must not be simply a duty imposed but, in a consciousness of identity with the whole, a service freely rendered. In the final outcome, it must be the tendency of a spiritual Heimat in which the human spirit finds itself because, man and Nature being one, what is done to Nature is ipso facto done to mankind.

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NOTES

1. *The Lives of a Cell* (New York: Viking Press, 1974). p. 5.
2. *Ibid.*, p. 41.
3. *Ibid.*, p. 145.
4. Cf. *The Phenomenon of Life* (New York: Dell, 1966).

CHAPTER IV
PROGRESS AND NATURE
MARGARET CHATTERJEE

Certain preliminary considerations attend any attempt to deal philosophically with the subject: Man and Nature. I mention only a few. Progress is very much a nineteenth century concept, related to the expanding economies of the Victorian era. Twentieth century thinkers operate more with the concept of development which, in all conscience, is equally controversial. In a sense, therefore, we appear to be concerned with an historical exercise for the concept of progress arose more in the context of the discussion of history or social change than in connection with the concept of nature as such.

Presumably, the juxtaposition 'progress and nature' raises questions about man's place in nature and his ability to change it. The pragmatic outlook is built into that of the twentieth century to such an extent that to dig a hard-core philosophical structure out of all this is by no means an easy task. This is especially so considering the fact that the basic philosophical arguments are to be found in pragmatist writings about truth and meaning, rather than about more metaphysical questions concerning the relation of man to the cosmos.

PROGRESS

Let us return to the nineteenth century concept of progress for some clarifications. The notion of biological free competition implied in Darwin's theory of evolution paralleled free competition in economics. The extraordinary optimism of the Victorians led them to believe that this free-for-all would result in progress. Due to historical factors, it did so happen that certain countries did emerge first in the industrial race, but an interesting question can be raised in this regard. Theism has traditionally been a massive base for a cosmic optimism which civilizations with a cyclical conception of history have not shared. For all its apparent secularity the nineteenth century concept of progress was still buttressed by the doctrine of the "invisible hand." British writers never succeeded in being as secular as the leaders of the French Enlightenment. The philosophical radicals, like their brothers in spirit, the pragmatists, believed in piecemeal engineering, especially of the kind that could be spearheaded by legislatures. For both, metaphysics was subordinate to the realities of political and economic life; indeed, they were wise enough to see these as conflated in what they called 'political economy'.

There was, however, a metaphysical inconsistency about the concept of progress which no less a person than Bury, author of *The Idea of Progress*, pointed out in no uncertain terms. It is the inconsistency between the premise of flux and the postulation of an end or objective: "In escaping from the illusion of finality, is it legitimate to except that dogma itself?"¹ In other words, in addition to a self-congratulatory awareness of whence we have come, is it not necessary to have an idea of whither we were going? If not, wherein could we speak of progress? Yet, to have such an idea would surely reintroduce the very eschatological element from which we were trying to free ourselves. Tennyson's far-off divine event towards which the whole creation moved needed to be given some body. I am suggesting rather obliquely that shorn of an eschatology the concept of progress wears rather thin. Earlier thinkers had relied, if not on an out-and-out theodicy, then on sketching out of some sort of Utopia against which we could match our piecemeal efforts. Karl Marx is perhaps the first major nineteenth century thinker to

confess his lack of faith in Utopias, in spite of appearances to the contrary, and to leave the content of his millennial hopes quite open as being merely a classless society once the state had withered away.

JAMES AND PRAGMATISM

Oddly enough, both British liberal writers and Hegelians of the Right in the nineteenth century tended in their theorizings about progress to glorify what was historically actual. Pragmatists, on the contrary, were fully men of the twentieth century in being free of this particular brand of euphoria. They were free of any simple-minded belief in the onward and upward march of history, of apocalyptic hopes, and of doctrinaire beliefs in the perfectibility of man or the possibility of collective redemption. Much of the pragmatist approach was compatible with conservatism, at least in its piecemeal tinkering that was not reckoned to shake the foundations. The pragmatist understanding of progress need not raise the hackles of an Oakeshott or an Isaiah Berlin. Pragmatism stands for a secularized occasionalism where man essays to 'change reality' and takes full responsibility for the 'secondary nature', that is, the whole apparatus of the culture of cities, which he has himself made. The benevolent etatism of the welfare state, whether of the capitalist or socialist variety, can claim the pragmatist scriptures as its own. Failures of engineering can presumably be corrected and power structures be geared to an endless remedial task which in detail, of course, varies from time to time and country to country.

For the metaphysical underpinning of all this let us turn first to William James. Peirce had spoken of an element of pure chance or spontaneity operative in the world, but that does not make us either nature's prisoners or nature's playthings. For William James, too, it is the surd element in things that gives man his opportunity. The world is loose-jointed enough (plastic enough, in Schiller's phrase) to make room for engineering activity. James poses the following question in his book *Pragmatism*: "The really vital question for us all is, What is this world going to be? What is life eventually to make of itself?" Like Bergson, whom he admired, he believed in the creativity of man, his vitality, rather than his intellectuality. Both James and Dewey share a preference for bios over logos, reacting against the abstractions and verbalisms of some of their predecessors. The implications of this in pragmatist thought should not be underestimated. To look on theories as instruments rather than as answers is to refuse to submit to the authority of the concept, the definition. In a sense, they overstate their case. In some respects, however, the pragmatists paradoxically resemble the idealists, for example, in their belief in the dynamism of thought and in their common rejection of the realist position that experience makes no difference to the facts. But William James is clear on the point that a block universe of an absolutist kind would make all human efforts nugatory. If reality is in the making, man's role in bringing about progress is vindicated.

What, then, is to be said of nature? James speaks of "the world's possibilities"² and of the act as the turning place where these are worked out. The analysis of possibility here is not as stringent as one would wish. Presumably there is some kind of congruence between the possibilities in man and the possibilities in things, and as a result of their commerce nature can be transformed. James advocates meliorism, but does not identify a genuine metaphysical warrant for assuming that human intervention will be for the better. Nature is not an intractable factor on which man imposes his beneficent purposes.³ To assume that these purposes are necessarily good would surely be to fall into the ranks of the tender-minded. The world, James

admits, is "multitudinous beyond imagination, tangled, muddy, painful and perplexed." The meliorist does not claim to set everything right, but that by his act he can "create the world's salvation." The theist may detect here a pelagian element.

Some further metaphysical grounds need uncovering at this point. In his Preface to *Essays in Radical Empiricism*,⁴ Perry stresses that for William James there is no disjunction between consciousness and physical nature. The well-known phrase 'mind and its place in nature' would therefore have no meaning in James' view. In *The Principles of Psychology*⁵ James writes that "it is the essence of all consciousness to instigate movement of some sort." This neutral monist framework no doubt accommodates free creative activity, in the sense of free continuous change from within as opposed to discontinuous transition. But a theory of change is not the same as a theory of progress, nor is a model of growth such as we find in Schiller for growth can be in unsatisfactory directions. Satisfactoriness is a notion which begs the question in pragmatist writings. A universe which is only 'strung-along'⁶ may be a universe in which man cannot fulfil his destiny, but only drift in a sea of contingencies. The concept of destiny is perhaps foreign to pragmatist thought, though it seems to presuppose a belief in the fundamental goodness of man and to share Gibbon's faith that 'barbarism' has been left behind.

DEWEY AND PROGRESS

For explicit reference to progress one must turn to John Dewey rather than to James. In his treatment of inquiry Dewey develops James' instrumentalism as a form of adjustment between an organism and its environment. He attempts to give a logical basis for progress in the individual as well as in society. Hitherto, he grants, progress has been technical rather than moral but it is through the experimental study of nature that progress is to be made. Science and technology are "transactions in which man and nature work together."⁷ In common with many nineteenth century thinkers Dewey is fascinated by the future. The future is to be successfully 'invaded', and this is to be done through intelligence. As in the case of William James, in Dewey also non-dualist metaphysic renders redundant talk of intervention or interaction. In *Experience and Nature* Dewey observed: "Fidelity to the nature to which we belong, as parts however weak, demands that we cherish our desires and ideals till we have converted them into intelligence, revised them in terms of the ways and means which nature makes possible. . . . Nature induces and partially sustains meanings and goods, and at critical junctures withdraws assistance and flouts its own creatures."⁸ This indicates a homogeneous universe within which the human element is at work by a kind of connivance of powers. "Supernatural synthesis" is "unnecessary" according to Dewey. Reflective morality is a situational matter, where situation is defined in terms of interaction between objectives and internal conditions.

Writing of Bacon, Locke and Newton, Hoffding said that they were inspired "by a fervent faith in intelligence, progress and humanity." This is no less true of the pragmatists. When pressed on the content or qualia of progress Dewey offers the ideals of personality, friendship and the democratic way of life. It is *Homo faber* who brings about progress, but there is no inevitability about it for human needs and acts are vastly diverse. For this reason Dewey does not enthuse over the utilitarian idea of a "fixed and single end lying beyond the diversity of human needs and acts." In keeping with a metaphysic of openness he would rather eschew talk of ends. "Acquisition of skill, possession of knowledge, attainment of culture are not ends: they are marks of growth and means to its continuity." More explicitly, "growing or the continuous reconstruction of experience, is the only end."⁹ This view of progress is quite free of

eschatology. In a sense he is more free of the linear interpretation of progress than were the nineteenth century thinkers, for he recognizes that there can be progress in some sectors while it is absent in others. Progress is a "retail job, to be contracted for the executed in sections." Yet, intelligence is not to be divorced from aspiration; without apology reconstruction can be inspired by hope. As to the content of moral progress, Dewey finds it in increasingly rational and social conduct and the conscious pursuit of the same. His thinking, along with that of James and Bergson in a different style, is sufficiently based in biology to stress the link between our conception of morality and human needs.

DEVELOPMENT AND CRITIQUE

All this sounds frankly naturalistic. In many ways the pragmatists' manner of looking at the relation between man and nature, their understanding of progress in terms of growth, is the philosophic source of the twentieth century concept of development. Even the current prophets of doom who speak in terms of the limits of growth would claim that their view was pragmatically justified. Likewise, both the advocates of planning and those who favor the operation of market forces can claim that the pragmatists are on their side. No doubt the founding fathers of the pragmatist movement could hardly be expected to foresee the dangers of the almost unlimited power that states, corporations, etc., have come to possess; or the powerlessness of the dispossessed, the wretched of the earth; or the backlash of a despoiled nature ruthlessly exploited by man. Pragmatism as such does not provide guidelines of the kind found, for example, in the work of Simone Weil or Albert Camus. `Welfare' and `growth' are terms which need analysis, and their content does not remain unchanged from culture to culture or period to period. A nemesis can overtake those who exploit nature irreverently no less than those who in mythic times challenged the gods. If we have learned anything in this century it is this: that progress in one sphere can be accompanied by retrogression in others.

The pragmatist view of progress is closely linked to belief in the potency for good of science and technology. It is, however, cosmic impiety, in Russell's telling phrase, that leads to all the ecological problems with which we are familiar today. Workableness provides no criterion for adjudication in situations where there are many workable alternatives. Progress in this century is notoriously uneven and in some societies has been achieved at the cost of eliminating indigenous tribal and aboriginal communities. Those who have become disillusioned with life in advanced industrial societies turn their back on `progress' and seek a new life in communes in out-of-the-way places; they opt to jump off the bandwagon. Though the pragmatists were not ipso facto committed to the rejection of cultural diversity, as a matter of historical fact they had no doubts about the benefits of industrial civilization.

There are a number of rather more philosophical objections. Although pragmatism was not associated with any theory of gradualism or inevitability, as a social philosophy it neglected the role of conflict and crisis in bringing about social change. Metaphysical commitment to pluralism led the pragmatists to stress atomism and individualism, which in turn made them rather less than sensitive to institutional blocks to progress. The major intractabilities which perpetuate poverty, injustice and a host of other ills are human; one does not need to adopt any particular philosophical concept of human nature to see that this is the case. The pragmatist understanding of progress made much of the concept of control, but tended to ignore the dangers of being controlled. The hazards which attend the manipulability of men are seen not only in the horrors of the thirties on the Continent, but in the consumer societies of the seventies.

Pragmatism, in fact, lacks an overall framework. Even improvisation, too, if it is well done requires a theme. The pragmatist affirms that the doors of possibility are not shut, but a metaphysics of pluralism alone cannot guarantee this. An open society tries to do so, but no ostensibly open society has as yet been able to guarantee justice for its weaker sections or satisfy the minimum needs of all its citizens. For this we need perhaps, not only a theory of transition such as pragmatism provides, but some sense of horizon which a purely naturalistic view of the relation of man and nature may not be able to provide.

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NOTES

1. John B. Bury, *The Idea of Progress* (New York: Dover, 1932), p. 352.
2. William James, *Pragmatism* (New York: New American Library, 1965), p. 282.
3. "We carve out everything . . . to suit our own purposes." *Ibid.*, p. 253.
4. Ralph Barton Perry, *Preface to Essays in Radical Empiricism* (New York: Longman's, Green & Co., 1912), p. xi.
5. (New York: Holt, 1907), p. 551.
6. William James, *A Pluralistic Universe* (London: Longman's Green & Co., 1912), p. 128.
7. (Westport, Conn.: Greenwood, 1946), p. 26.
8. (New York: Dover, 1929), pp. 420-421.
9. (Boston: Beacon, 1957), p. 185.

CHAPTER V
NATURE AS OBJECT AND AS ENVIRONMENT:
THE PRAGMATIC OUTLOOK

JOHN E. SMITH

In the pragmatic outlook on Nature there is an unmistakable duality and tension which points, on the one hand, to a basic problem and, on the other, holds out some possibility of a resolution. This duality manifests itself in the two faces assigned to Nature by those who first articulated the position. In one face, Nature is object to be known and subjected to control through the development of scientific knowledge and its application in all the forms of modern technology. This conception was enhanced by the dynamic and instrumental theory of intelligence or technical reason which received its fullest expression in the philosophy of Dewey.

In its other face, Nature is environment or the natural habitat of man, an ecological system which is supportive of human existence. It is not simply hostile in the sense made popular by the well-known phrase of the poet, "Nature, red in tooth and claw." The conception of Nature as environment was derived from the doctrine of evolution and from the emphasis placed by the Pragmatists on the life-sciences. The tendency of these thinkers to stress the continuity between man and Nature in their attempts to overcome what they regarded as the excesses of idealism, led them to regard man as at home in Nature, rather than as an inhabitant of an alien world.

The present crisis, environmental and ecological, stems from a somewhat desperate realization that there is a tension, even a contradiction, between these two conceptions. Nature understood merely as an object of control has resulted not only in the conception of a denatured Nature, but also in all those actual exploitations and pollutions of natural resources--rivers, forests, landscapes--which threaten the very existence of Nature as environment. The problem as it now appears is whether and how Nature can be recovered as environment. The solution to this problem turns on the question of whether man can maintain some rational control of his ability to control nature? If this cannot be done, Nature as object will overcome Nature as environment. The quality of our life will surely decline or, worse still, our very survival will be endangered.

Ultimately, much depends on the possibility that the same belief in the intimate connection between thought and purpose, which first gave rise to the instrumental and pragmatic conception of reason, can be invoked to criticize and to reorient the use of reason to purposes other than amassing profits through the ruthless exploitation of Nature. In short, the purposes or values expressed through all forms of technology must themselves be subject to more ultimate values which concern the being and quality of human life. At the present time there seems to be a tendency to question the long-accepted belief that the problems created by the technological use of reason will, in time, be resolved by a further application of that same reason.

NATURE AS OBJECT

To better understand our present predicament, it will be useful to explain more fully the way in which the two faces of Nature have developed within the framework of the pragmatic outlook. In doing this, we can also set forth the Pragmatist's conception of experience and consider its relation to Nature. I shall suggest that the esthetic and valuational dimension, which in this view belongs essentially to experience contains resources for the redirection of the instrumental intelligence. For the classical empiricists experience was basically a domain of sheer, sensible

fact serving as a touchstone for science. In contrast, the Pragmatists understood experience as the multi-faceted product of the interaction between man as the language and sign using animal and Nature; it was a product shot through with relations and meaning, with value and importance. For them experience is the substance of both individual and social life, rather than being primarily material viewed from a distance by a spectator whose principle aim is theoretical knowledge.

In accordance with the pragmatic outlook thought appears, above all else, as a human activity exercised under specific circumstances and for specific purposes. It is not, on this account, to be taken as "subjective" or as a mere bodily function as some critics have alleged. The aim of the Pragmatists was to see thought in existence, as actually functioning in ongoing human life and experience. Contrary to much that has been said and with the possible exception of James, these thinkers did not believe that thought had to sacrifice its autonomy in order to perform its function. Peirce's emphasis on formal logic and the logic of science, together with Dewey's concern for controlled inquiry testify to their interest in preserving what Peirce called logical self-control.

At the same time, however, they were suspicious of "pure" thought standing apart from all relation to human purposes and aims. Thinking is always to some purpose, ranging from a purely theoretical aim at one end of the spectrum such as solving a fifth degree equation, to the practical aim of repairing a broken instrument. In both cases, thought stands under the constraint of an end and is meant to accomplish something. The future is the all-important mode of time because, unlike the past, it is still open to the shaping power of the human will.

The interests of the Pragmatists in science, it is true, led them to concentrate on the behavior of the things in Nature with the ultimate aim of anticipating, imitating and controlling that behavior in order to satisfy human needs and wants. It was this interest which established the crucial connection between theoretical science and technology. As I shall suggest, the aim of controlling Nature came to assume such dominant importance that other aims, including the purposes behind the control of Nature, were often thrust into the background. Frequently this was done in the vague hope that all would turn out well in "the long run." We now know that this hope was illusory; controlling Nature cannot by itself be a final end because that control itself has consequences which manifest themselves throughout the entire fabric of human life.

It was no accident that the Pragmatists understood in dynamic terms the meaning of ideas, principles and theories concerning both Nature and social life. The natures of things, the predicates through which we describe and explain them, do not denote purely static and fixed characteristics; on the contrary, their meaning was understood in terms of the way the objects possessing these characteristics will behave under certain circumstances. To know that something is hard, soluble, dangerous or edible is to know what it will do in interaction with other things and human beings. Thus, the reactions of things provide man with the clues he needs to identify them, and at the same time enable him to prepare appropriate responses to their presence.

Nature then becomes a vast network of more or less regular patterns of action and reaction, but insofar as it is subject to such control as is within the compass of human knowledge and ingenuity, Nature has, so to speak, no interiority or autonomy of its own. One of the principal reasons why technology or the science of control developed so rapidly and with such scope on the American scene is found in the continuity of so-called "pure" science and all forms of engineering. When theoretical knowledge is itself understood as the result of the activity of controlled research and that knowledge represents a grasp of the dynamic behavior of the things

studied, then the gap closes between knowing, on the one side, and doing or making, on the other.

There is, however, a price to be paid for such a development no matter how great its contribution to the fulfillment of urgent human needs, economic, medical or nutritional, etc. This price is the denaturing of Nature as can be seen at once by comparing the classical conception of Physis with that of Nature as the sheer object of the engineering will. Physis was nature alive and filled with norms by which a sound specimen could be distinguished from a deficient or deformed one. It was pregnant with value in the form of processes of growth and creativity. Above all, Physis represented a natural habitat in which man could rejoice at the sights, the sounds, the colors, the glory and wonder of all living things. Unhappily, from the standpoint of instrumental reason and the motive to overcome Nature through the creation of an artificial environment, this living and vibrant Nature is banished, a victim of machines and commerce.

NATURE AS ENVIRONMENT

As was pointed out previously, however, Nature as object represents but one face of the pragmatic view of Nature. There is also Nature as environment, as the scene for the unfolding of man's experience. Though undoubtedly overshadowed and obscured, it is important to be aware of the presence of this second face because it can contribute to the creation of the climate of opinion necessary to deal effectively with the contemporary ecological crisis. Viewing the natural order from the vantage point of evolutionary doctrine, the Pragmatists were led to three basic conclusions concerning Nature and man's place therein. There was, first, an appreciation of Nature in its concreteness as natural habitat, with a tenure of its own in the total scheme of things; second, a strong emphasis on the continuity of man with Nature; and, third, a conception of experience as the "third term" between man and Nature, an emerging system of meaning, habit and value which is at the same time the very substance of human culture.

1. Study of Nature as a vast system of real kinds and evolving forms afforded a new appreciation of the extent to which Nature is supportive of life, including that of man, rather than merely the scene of the elimination of the supposedly unfit. This supportive capacity of Nature was described with force and precision in a well-known book from the earlier decades of this century, *The Fitness of the Environment* by Lawrence Henderson. There, Nature is shown to have its own structures and spatio-temporal regimen as distinct from any imposition by man of his patterns of control through technology and culture. Henderson dramatized the delicate balance of the organic and inorganic conditions in the cosmic order which make possible human life and its continued development. The Pragmatists, too, understood this autonomy of Nature coupled with man's dependence on it. However much they stressed the precariousness of life vis a vis the natural order and hence the need to control that order, they had due respect for its integrity as the matrix of all living things. As a result, they believed that Nature is more than an object to be totally transformed by human will; it is also a qualitative order with which man must cooperate if he is to survive. The key to that cooperation is reliable knowledge of the workings of natural processes.

2. Closely connected with the foregoing is the belief in the continuity of man and Nature. This continuity was not construed in terms of identity, implying a reduction of man to lower and simpler forms of life. Stressing, as they did, the distinctive character of consciousness, intelligence and purpose, the Pragmatists could not consistently have regarded all three as mere appearance or as evanescent manifestations of some underlying matter. In their insistence on

continuity, the Pragmatists were calling attention to the fact of man as a natural creature with roots in the earth. For them continuity also implied the openness of Nature to the human mind, as evidence against the doctrine that man is in a totally alien universe or that he is encapsulated in a subjective tissue of experience which prevents him from reaching the so-called "external world." All communication between human selves takes place through the medium of Nature; Dewey, especially, included relationships with Nature along with social interactions. In *Human Nature and Conduct* Dewey wrote:

Infinite relationships of man with his fellows and with nature already exist. The ideal means . . . a sense of these encompassing continuities with their infinite reach. This meaning even now attaches to present activities because they are set in a whole to which they belong and which belongs to them.¹

Implicit here is a rich conception of Nature as the encompassing whole, embracing the total life of man. This is far removed from the view of Nature as object which dominates the thought of the physical scientists and the engineers.

3. A unique and not always recognized feature of the pragmatic outlook was the development of a new conception of experience. This was not based, as in the classical view, on a passive spectator who merely observes the data of sense. Its foundation was rather a dynamic interaction between a living, organic being equipped with language and intelligence and whatever presents itself to be encountered or engaged. Experience, in this sense, is the realization of that previously mentioned continuity with Nature. Experience is not a distinct subject matter such as the content of the senses in contrast to thought; rather, it is the meaningful and significant result of the engagement between Nature and man. Neither is experience confined to content. Whatever there is, from stones to hopes and fears, can be encountered in some mode and to some degree. Experience, however, embraces contexts or meaning dimensions in such a way that one and the same object can be apprehended or experienced in many contexts. A single tree, for example, will appear to the botanist as a representative of a species, to the lumberman as so many board feet of timber, and to the poet as the force of Nature manifested in the destiny of the acorn to become an oak. These varying contexts are not to be regarded as merely subjective additions made by the human mind. On the contrary, they are rooted in Nature inasmuch as it is the tree which has the capacity, through its own structure, to figure significantly in the diverse meaning patterns. It is these patterns which are realized in experience in virtue of being encountered by the subject of experience who is able to apprehend them.

Among the dimensions of experience one which is both outstanding and of special importance for our problem is the aesthetic dimension. This embraces both the realization of value or significance in human life and an apprehension of the reality experienced in its own terms as valuable in itself. Thus conceived, the esthetic represents the transcendence of the instrumental intelligence since it is quite illegitimate within the compass of esthetic perception to regard what is thus experienced as a means to a further end. Such perception has a finality about it and represents our appreciation of whatever is encountered for itself in its own quality and value. Esthetic perception posts a "No Trespassing" sign in Nature and at the same time reveals the limits of technological reason, for if there are no final goods and values then even instrumental values lose their point and purpose. It is as if one had at his disposal all possible ingenious means for overcoming obstacles and attaining goals, but had no clear idea of which ultimate ends to strive for. From *Know-How to Nowhere*, the alarming but accurate title of a recent book on technology in America, nicely expresses our current predicament. It can be

resolved only if Nature has a status of finality in itself which takes man beyond Nature as object, and even as environment, because Nature can be destroyed in its environmental capacity unless it and the experience which it engenders possess intrinsic value standing beyond the reach of instrumental intelligence.

Let us attempt to understand more clearly the nature of the esthetic dimension by considering Dewey's account of what he called "having an experience." In contrast to philosophers who have tended to speak of experience in an unrestricted sense, Dewey was interested in the unity of individual experiences had and identified as such. To have an experience is to have moved through a course of events to some form of consummation. It may be the solution of a problem, playing a game, writing a book or enjoying a meal. In all these, there is a sense of fulfillment and completion such that the experience stands out as a significant whole, pervaded by a dominant quality. Thus we say, "That was a terrifying, poignant, sad, etc. experience"; its value for our lives resides precisely in this quality which is borne in upon us by the experience as a whole. It was Dewey's contention that no experience has significant unity unless it has such aesthetic quality. A passing stream of impressions or a succession of colors or sounds do not by themselves constitute an experience because they lack the pervasive quality which would identify them as that particular experience. By contrast, the experience of having arrived at one's destination after undergoing some harrowing events is an experience suffused with the quality of relief or of anxiety overcome. The entire sequence of happenings is taken together in one whole of meaning. In asking where we are to go for an account of such experience, Dewey replied:

to drama or fiction. Its nature and import can be expressed only by art, because there is a unity of experience which can be expressed only as an experience.²

Within the interaction between Nature and man the emergence of what has value and intrinsic worth sheds light on both experience and Nature. Nature is disclosed in its esthetic capacity as a reality surpassing the status of object and even of environment; as such, it has a claim on man as a responsible being. Experience, moreover, without the pervasive qualities which punctuate it would be either an inchoate mass of events or an endless series of happenings registering themselves on the consciousness of a being for whom they have no more meaning than the passing scene has for a camera recording it on film. The aesthetic, then, is a touchstone of significance and provides a standard in accordance with which to judge the limits of the instrumental intelligence.

Reducing Nature to the status of object means setting aside all limits to technological control. This results in that total exploitation which in turn, destroys Nature as environment. The recovery of Nature as the supportive habitat of human life is impossible without imposing limits to man's control. It is the esthetic dimension which marks out those limits and points the way to a more rational control of the engineering will itself.

Whether, in fact, the balance can be redressed is not a question to be settled here. What is important to understand, however, is that the very pragmatic outlook which provided the basic rationale for technology is not without resources for directing that technology towards human goals.

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NOTES

1. John Dewey, *Human Nature and Conduct* (New York: Modern Library, 1930), pp. 330-31.
2. John Dewey, *Art as Experience* (Capricorn: New York: G. P. Putnam & Sons, 1958), p. 43.

CHAPTER VI
MAN, TECHNOLOGICAL PRAXIS AND
NATURE IN DIALECTICAL SYNTHESIS

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Hegel and Faure considered architecture to be the art by which dynamic and vigorous societies initiate the development of civilization. In a similar manner, philosophy can be called 'the architecture of culture'. This term refers to the most general and comprehensive intellectual construction summing up in an integrated form the principles and the achievements of science, arts, technology, material production, politics and, indeed, of almost every human physical and intellectual endeavor.

Thus conceived, philosophy proves to be, not only a mere point of departure for the development of civilization, but its epitome. To put it more clearly, as a synthesis it is also a point of departure, for it both lays foundations and creates upon them the intellectual construction of the future. Some syntheses, such as those of resignation or of historical decline, may simply bring an end to something. These demonstrate the unacceptability of Nietzsche's conviction that decadence, because devoid of the power to generalize, is doomed to cultivate mere details. The role of stoicism, for example, was but that of summing up, while Augustinianism ushered in a new epoch. Descartes seems to have adumbrated right from the start a sweeping outline of the architectonics of modern individualism and rationalism. Hegel perceived the value of his own philosophy in completing and crowning the development of mankind. Marx and his disciples have a full awareness of summing up and continuing past achievements, while at the same time throwing open completely new horizons.

In comparing philosophies with architecture we had in mind naturally only those philosophies which perhaps deserve the name (for, obviously, not all have been included in the above), that is, those capable of mastering the world intellectually and thus capable also of working out syntheses.

THE RISK AND THE NEED FOR SYNTHESIS

The need for synthesis is perhaps more urgent today than ever before, in order both to master the world by imposing an intellectual order on reality and to discover the main features of the epoch precisely through synthesis. Thus, the goal is to detect the guiding principles and thereby to establish one's own place in the reality of culture and humanized matter. The very tendency which Gabriel Marcel called the ontological hunger for being finds its superficial, yet distinct, expression in the hunger for synthesis; hence, it is also a quest for roots or for a fulcrum.

Synthesis becomes a kind of a priori for subsequent development, the basis for further, including analytical, investigation. It should yield that insight which Bergson sought through his intuition, namely, the idea and penetration of the world which is subsequently exploited by a host of analyses devoted to particular and narrow fragments. A summarizing synthesis seems but a report on the stage of knowledge achieved thus far, while an open synthesis, a projecting one, can be compared to a map whose contours are merely outlined and is meant to be filled in and complemented through subsequent investigations.

Synthesis, therefore, is a form which integrates sciences, arts, politics, and so forth; it signifies a comprehension, attainable perhaps first of all through philosophy, of the essence of

culture, the network of its typical tendencies and the foundations of a view of the world. As this comprehension is achieved through diverse forms of social consciousness and the principles of practical¹ activity it has cultural, historical praxis and anthropological significance. Thus, synthesis makes possible the functioning and development of culture rather than its vegetation and decay.

The main concern of this paper is to attempt an assessment of one of the most brilliant and comprehensive syntheses, that advanced by Henri Van Lier in his book entitled *The New Age*.² It is a significant essay presenting an intellectually inspiring and invigorating integration of technology, science, art and ethics, viewed in the perspective of an all-embracing, philosophical vision of culture. It is one of the most symptomatic expressions of the quest for ideological and philosophical orientation to be found in contemporary Western thought. Further, it is a synthesis of a special kind, for it is worked out as if the march is simultaneously "in progress" and at the crossroads.

To put it more forcefully, in its political aspect the work defends individualism and cosmopolitanism, while in its totality it expresses technocratic leanings despite certain pro-democratic declarations in the chapter devoted to art. That is, the author's unificatory aspirations were powerful enough to lead him to the theory of convergence tacitly assumed as the obvious premise or generalization of the contemporary state of civilization. While the above would suggest that the book is written from a standpoint trenchantly inimical to socialism, it is, in fact, not so. In a certain sense, it is even pro-socialistic, since in attempting to strike a balance at the crossroads the author directs his far-reaching philosophical insight all the more clearly toward the socialist world and particularly towards the socialist vision of the world. Here, in my opinion two types of convergence theorists are of interest: those who would have socialism become similar to capitalism and those who believe that capitalism must come to resemble socialism and give rise to a single civilization and cultural formation without recourse to social revolution. As Van Lier appears to belong to the latter group he is one of the most interesting witnesses of the ideological transformations occurring within bourgeois culture and an exponent of its boldest, most sincere and unbiased explorations. His individualism constitutes man's defence against reification and the anonymity of mass culture. His cosmopolitanism protests nationalistic and certain chauvinistic movements, as well as the particularisms stemming in part from the growing disparity between the development of single countries and even of various parts of the capitalist world. His technocratism is not directed against man, but expresses his belief in the beneficial and omnipotent power of technology for delivering this world and securing its further development and prosperity.

The philosophical stratum of the book evidently yields to Marxism. It is worthy of note that this is observable more in the actual solutions proposed than in its declarations. This pertains, above all, to epistemology and ontology. The author's theory of society and its development conceives the productive power in a one-sided manner. While basically acknowledging its prominent role, he absolutizes the role of technology and underrates the role of the relations of production which are crucial from the socio-economic point of view. Hence, there are such paradoxes as: convergence along with an almost Marxist theory of culture and civilization; technocratism hand-in-hand with declarations about a world freed from alienation; individualism alongside dreams of the community of mankind. Obvious contradictions and incompatibilities follow: the statement that "there is nothing intermediate between an expert and an ignoramus"³ is followed by a thesis about the "public participating in the creative process" and the statement that

"contemporary art is democratic in a very deep sense, which signifies something more than cheapness and the ability to duplicate the standard."⁴

Nevertheless, rather than dwell on errors, our interest lies in his efforts towards a synthesis using dialectics as its axis. It is my intention, therefore, to rectify this peculiarly dialectical synthesis through the polemical argumentation in the subsequent parts of this paper. Transcending the limits of polemics, I shall attempt to formulate counter-propositions against the background of the kind of philosophizing which is under analysis.

THE STATIC VERSUS THE DYNAMIC MACHINE: IMITATION OF NATURE VERSUS STRUGGLE WITH NATURE

The point of departure for Van Lier in his analysis is technology conceived in close relation with culture and, indeed, as its foundation. The three phases or aspects of the machine revealed in its historical development lead to basically divergent types of culture and equally divergent philosophies. The static machine seems best suited to mechanistic and sentient materialism: it passively imitates nature of which it is a fragmentary appendage. "The mechanic machine was but an extension of either the human body or the natural forces: watermills, windmills even pumps and the mechanical press took advantage of water and the wind, using them according to their natural capacity and efficacy, without attempting any transformation and on the spot."⁵

With the advent of the dynamic machine around 1800,

The machine ceased to be an innocent means of relieving man's labor and securing him decent conditions for everyday existence; it became rather an instrument with boundless power, capable of satisfying equally boundless needs. The transition from Newcomen's machine to that of Watt may be regarded as the symbol of this basic change. In Newcomen's machine steam pushed out the piston which had been pressed in by the natural pressure, that is, the weight of the air. We were still in the world of windmills and watermills. Completely reversing the problem, Watt used steam to press in and develop the momentum. Since its pressure can be increased indefinitely, power became capable of unlimited growth. In this manner the propelling ability passed from nature to man and energetism such as will be later developed by thermo- and electrodynamics was born. Thus the machine, which in its origins did not arouse the anxiety of the humanists, suddenly became a source of new morality, almost of a new religion, of efficacy, quantity, efficiency and progress.⁶

The dynamic machine, therefore, broke away from man and nature.

The locomotive, the furnace, the electric turbine or the internal combustion engine not only become separated from the laborer, what is more, they unleash natural forces and transform one of these into another: mechanical to electrical to chemical. The concept of energy and the principle of its conservation are discovered in relation to the capacity of these machines to transfer energy from place to place independently of its source. Hence, the feeling expressed by those who witness these processes . . . cannot be included in the culture and the systems of sanctified values which knew and related among themselves only man, nature and certain objects. Compared with the semi-artificial instruments of old, the dynamic machine represents perfect artificiality and constitutes a separate as well

as singular realm. . . . It becomes the means of the means. It inaugurates the realm of pure means, equally distinct from man and nature and equally uncanny; some even say: monstrous as the realm of pure artificiality.⁷

As we interpret it, the dynamic machine seems at one and the same time best suited to the classical German activist idealism and the French and English positivism. It is both a peculiar product and a substantiation or perfect image of these differing intellectual and cultural trends. On the one hand, it expresses the attitude of unlimited activism imposed on nature and society from outside, while also representing in itself the perfect order of the mechanical world, of inexorable facts, laws and systems independent of man. It embodies both the menace and the hope of the great era of the middle class: its brutal power and total alienation and, simultaneously, the hope of an unlimited mastery over the world of nature and man. All in all, Van Lier refrains from assessing the social consequences attendant upon the advent of the dynamic machine. He merely quotes among others the arguments adduced by its enthusiasts, the American technocrats of the 20th century:

You will argue that the advent of the dynamic machine liquidated the shortage of goods and, hence, of privileges and social classes. Actually, it is quite the contrary: as we have clearly demonstrated it brings about a new class division into producers, technicians and executors, the very division being more alienating than hitherto.⁸

One further quality of dynamic machines must be taken into account since it is significant to the problems under analysis here. This is the fact that these machines are abstract. "Abstractness is nothing other than stereotyped recurrence and succession which acquired a purely numerical character through acceleration. . . . Abstractness means information directed to itself which screens the world instead of revealing it."⁹ Bergson's critique of positivistic civilization converges with this critique of the dynamic machine as obscuring the world. Information directed to itself and having no 'deeper' contact with being evinces a tendency towards a peculiar inner multiplication

while an overflow of information places a screen, as it were, between consciousness and things; it is by force of this phenomenon that it can be called passive. It is passive not because it causes drowsiness, but because the activity which it stimulates concerns principally the substitutes of reality, images, sounds, words, imaginings which are apt to evolve into delusions.¹⁰

Without being explicit the author leads us to the conclusion that the dynamic machine is a typical expression of the dominating culture of the 19th century with its mixture of idealistic and positivistic tendencies. Fortunately, we can attempt to be more consistent. Are the interrelations warranted which he suggests between technology or, more precisely, the form of the machine and the style of culture in itself and unmediated by the socio-economic system? While being a rhetorical question it possesses a certain inspirational value unrecognized by the prevalent Marxist line of argumentation. A comprehensive view would conceive the machine rather as a product of the economic-socio-intellectual culture; consequently, it is philosophy which gives birth to the machine rather than the other way around. The word "rather" implies that the multilayer structure of social life and the mutual interrelations of its elements virtually exclude any alternate major relation.

THE DIALECTICAL MACHINE: TOWARDS UNITY WITH NATURE

This influence contributes to historical augmentation: the dialectical machine is a result of the development and qualitative transformations of the dynamic machine in much the same manner as the latter continued the static machine, despite considerable differences. Since, however, the author did not furnish an explicit qualification we must reconstruct his line of reasoning in subordination to our polemical presentation, juxtaposing it with our counter-proposals and supplementing it with our revisions. The dialectical machine of which the atomic pile and computer are examples, is correlated in time with the second industrial revolution.

Whereas the machine of the 19th century, being analytical, linear and sequential, appeared totally abstract and deserved all the indictment which for ages were lodged against abstractness, our contemporary machine . . . betrays enough synergy to make its concreteness prominent, thus resulting in a far-reaching modification of its cultural significance. . . . The concrete mentality was finally introduced in the definition of cybernetics worked out by Norbert Weiner's team in 1948 for information machines and . . . in 1958 for dynamic machines.¹¹

What exactly is synergy, which is so crucial for the dynamic machines.

Within the internal combustion engine there obtains a marked antagonism between compression and explosion stemming from the fact that under the impact of compression the explosion can be transformed into a detonation. In contrast, compression within the Diesel engine is both the source and the result of explosion, which reduces to a bare minimum the antagonism between the two. It can increase itself and the power of the explosion simultaneously."¹²

Possibly this phenomenon can be discerned all the more clearly in the operation of the jet-propelled engine which, together with the aeroplane, becomes a significant example of the attempt to make machines resemble living organisms, of the synergy of function and surroundings, and of an almost ideal cooperation of the machine with the environment.

Already the consequences of the dialectical machine for culture are clear. The dynamic machine was opposed to life, thereby generating chaos and pernicious socio-cultural consequences. The dialectical machine, on the other hand, accomplishes a reconciliation of mechanism with the life environment and develops some features of a living creature. Thus, the age-old idea of organicity seems to recur, this time in the concrete, bringing "a preponderance of the whole over its part, wherein a part ceases to exist as a mechanism and becomes an organ."¹³ The synergy of the machine and nature seems observable in modern aerodynamic solutions: the automobile takes advantage of the resistance of air to increase its cohesion, special projections of the synchronous propellers direct the stream of air under the aeroplane's wings to increase its carrying capacity. . . . we bear witness to a great reconciliation, active this time, which occurs on the basis of mutual conditioning and thanks to which the "associated environment," to use Simondon's term, is taking shape. The water surrounding Guimbal's turbine, the air surrounding the bolids or that which is found between the wings and the propeller of the Breguet 941 aeroplane no longer belong to the machine; nor are they simply the forces of nature: together with the machine they constitute the intermediary reality. Once this type of reality has a chance of getting somewhat disseminated, of becoming

more spectacular . . . its cultural significance, that is, its ability to substitute for the older and more static nature, will become obvious.¹⁴

The term "intermediary reality" ought to be kept in mind as it will constitute the axis in the analysis for the philosophically significant conception presented in the following parts of the paper. The dialectical machine is distinguished by various synergies that lead to the following two significant concepts: that of concreteness and that of dialectical network.

The abstract machine to the extent to which its functions

were separated easily lent itself to explanation or reparation and was adapted to performing various tasks. The concrete machine, however, introduced a new world, more powerful and more flexible in its totality in comparison with the world of the past.¹⁵ In its full extent synergy is synonymous with the organic relationships between mechanical elements; . . . it implies dialectical relations between machine and nature, between matter and form. . . . The recent machine inaugurates a new technological and cultural vision of reality.¹⁶

In our interpretation, which at the same time attempts to furnish the missing links in Van Lier's argumentation, concreteness is dialectical since it both continues and transcends the abstractness of the old type within the new machine. We can perceive here an analogy to, or even the inspiration of, the Marxist theory of cognition: from the initial, existing and empirical concrete, through abstraction, generalization and theory, towards the concrete of creative practice, that is, the creation of a new reality.

The concreteness of the dialectical machine implies a complexity of structure which re-enacts the imitation of the concreteness of nature on a qualitatively different level; thus, the product of technology becomes a replica of the dialectics of nature. Naturally, the above statement breeds a number of new problems. This imitation also existed before, but the previous machines were exterior to nature, both qualitatively and quantitatively. Whereas the static machine was appended to nature and the dynamic machine was opposed to nature, the new machine, owing to its concreteness, attempts to place itself inside nature through the intermediary reality mentioned above, that is, through synergy and the entire dialectical network. It marks a dialectical leap into new behaviour and new mentality. Paradoxically enough, the problem of industry destroying nature may be a symptom of this process of getting located inside nature; it is simply one phase of the difficulties of adaptation. Having already ventured such an optimistic diagnosis, we have full right to anticipate that the development, not of the machine, but of dialectical technology (the whole network of plants uniting metallurgical, chemical and agrotechnical solutions with advanced socialistic relations) will bring about a specific "naturalization" of technology, a fuller imitation of nature and a veritable synergy.

In the course of argumentation pursued by Van Lier this becomes inextricably related to another component of the dialectics of the machine, that is, with network:

It is no longer the machine that is the fundamental technological conception but the network, a synergic aggregate of synergic machines. . . . The dialectical network is of horizontal tension. It has numerous loops and focuses. Its order is no longer hierarchic but functional, as that of the organs of the human body, which are interdependent and control one another within the self-regulation system of the whole organism. Initiative is transferred from one point to another depending on the exigencies of the moment.¹⁷

Both concreteness and the network are inextricably connected with the idea of reversibility.

The concrete epoch, totally engrossed as it is in the idea of reversibility, attempts where it can, and particularly in relation to the internal combustion engine, to substitute the scheme: raw material = product + by-product, for the scheme: raw material = product + refuse. In a way it is forced to do this with respect to atomic energy, whose remnants are pernicious in the extreme.¹⁸

The above example of the idea of reversibility does not seem to be sufficiently apposite. The issue can be grasped more tangibly with respect to information machines and the use of cybernetics in the development of technology and modern culture in general. In this case feedback can be considered a concretization of the constitutive principle of dialectics, quite in tune with the tendencies evinced by the most recent philosophical output.

THE RELATION BETWEEN THE SOCIO-PHILOSOPHICAL SYSTEM AND TECHNOLOGY

Van Lier's conception, which in the foregoing interpretation has been systematized, specified and supplemented, is both inspiring and significant. It subjects technology to a specific philosophical scrutiny, laying emphasis on the dialectical character of its present stage of development. This attitude yields a deeper understanding both of technology itself, and of its impact on the development of society, its mentality and culture. Further elaboration of this point is an urgent task for philosophers, engineers and inventors in particular. Dialectics of this kind contribute to fruitful humanistic interpretations and may aid in research and design work. Thus, adoption of the idea of the dialectic network should consistently result in concrete and practical cooperation between engineers and philosophers, between naturalists and humanists in general.

The value of this conception is found also in what that it presupposes as obvious, mainly that handling dialectics itself is a serious, novel and fresh manner. Van Lier does not rest content with schematically opposing dialectics to metaphysics, indeed he never uses the latter term. Rather, he concretizes the general approach by opposing dialectic vision and activity not only to the static, but with equal emphasis to the dynamic and the abstract approach. Inventiveness and boldness in the use of language enriches the conceptual stock at the disposal of dialectics by such terms as concreteness, network and synergy of the first and second degree.

His application of crucial terms: "dialectics" and "machine" is especially interesting. Frequently, the author does not attempt to introduce any arrangement or any order into the flux of his thoughts. Thus, the book possesses all the values, together with all the shortcomings, of an essay and perhaps of the famous French "light" style. For these reasons the above presentation is bound to transcend the limits set by purely interpretative activity and at certain points elaborate and supplement the author's vision. The point at issue here is not the dialectical theory of the machine but the dialectical machine. Van Lier may not have been aware of the significance of this term: through it contact is established, no longer with a dialectical theory, but with a man-created reality which, though artificially produced, is dialectical.

I propose to formulate the point with more caution, and the restriction seems quite evident: namely, that the dialectical machine is but the preliminary stage of a process in which technological reality is becoming dialectical. A fully dialectical technological network will be a phenomenon so significant and revolutionary in its nature that its full-fledged development may correspond to the communist civilization alone.

Is this dialectics attained solely through imitating nature? The concept of intermediary reality refers us to quite another set of problems. Suffice it to say here that with the concrete machine, synergically linked with the entire network, the degree of imitation of nature allows us to refer to the dialectics of nature as "existing" in the products of technology. Hence, it is possible to conceive of reproducing the dialectical processes in the artificial products created by human beings.

Much to our surprise, however, the conception analyzed above seems to pertain rather to the simplest laws of dialectics, chiefly to the principle of universal interrelatedness, the principle of transformation of quantity into quality and, partially, to the principle of negation of the negation. These principles or laws can be correlated with such terms as synergy, network, concreteness, transformation of the forms of energy, energy and matter and even information and energy. That, however, which is most crucial and profound in the theories of dialectics elaborated hitherto, namely, the laws of unity and the conception of the struggle of the opposites, is not to be found there; simultaneously, the sphere of problems delimited by Van Lier together with the manner of interpretation clearly point in that direction.

It might be ventured that in a way the static and the dynamic machines function above all on the basis of alienation from and antagonism towards nature. The dynamic machine constitutes a result of a pragmatic establishment and petrification of a discovered discrepancy or contradiction "freezing" its opposed poles, as it were. This state has its corresponding consequences which find expression in an unmitigated, absolute, that is, precisely antinomic and metaphysical opposition between nature and culture. Naturally, the man who introduced this antinomy into the European mentality, Jean Jacques Rousseau, lived at the time when the transition from the static to the dynamic machine was just occurring (the boundaries between these two technologies are here delimited with ample tolerance). Subsequently, the triumphant progress of the dynamic machine was paralleled by the drastically growing discrepancy between nature and culture, observable both in the numerous theoretical and philosophical conceptions as well as in the realities of the contemporary world, especially the world of dynamism, brutality and total alienation of technology from the natural and social environment.

The dialectical machine, on the other hand, seems to take its place in the very center of the tensions between nature and culture, uniting the two poles of the same human reality which we prefer to qualify by the classical term: praxis.

It is at this point that technology acquires greater veracity: it is no longer the veracity of imitating a separated fragment of reality, but that of cohering to the very essence of the inner processes of reality. It is a matter of "getting fitted in" the schemes of nature, through synergy and the all-embracing interrelations obtaining within the dialectical network. Furthermore, due to its growing concreteness and complexity, the machine constitutes a miniature replica of the world. This can be predicated of the great industrial-information-cultural networks, of computers, spaceships and atomic power plants. As I have frequently taken the liberty of transcending the boundaries set by the author's explicit argumentation, I would venture one step further: on the grounds of Hegelian-Bradleyan language we could even refer here to imitating the absolute, precisely in its complexity and concreteness. Couched in more modest terms, the dialectical machine will be considered a step towards the absolute, man's actual and most powerful instrument in his incessant and hitherto futile attempt at deification.

This is due to the peculiar location of this machine at the "very heart" of nature, as if in the center of a contradiction. To be sure, earlier machines, together with the majority of preceding cultures and philosophies, absolutized contradictions or incompatibilities in a special way.

Through their partial solutions they were able to use a fraction of the tensions or energy they themselves represented and, moreover, wasted most of it due to their very low performance index and great amount of refuse. In the domain of its cultural counterpart this found expression, for example, in absolutizing certain fragments of reality, in viewing reality by different philosophies each time as if from a different vantage point. All this was done in full confidence that these fragmentary and superficial opinions revealed the absolute truth. Recall how many philosophers regarded their own conceptions as "Copernican revolutions" or turning points: Descartes, Kant, Hegel, Comte, Kierkegaard, Nietzsche, Bergson and most others. Manifestly, in the domain of culture waste was equally great inasmuch as the possibilities afforded by energy of thought, truth and ingeniousness were concerned.

The dialectical machine, on the other hand, affords a location within the contradiction itself; rather it makes it possible to take full advantage of the contradiction and frequently at the preliminary phase: for example, the development from atomic energy to nuclear energy. It domesticates the tensions without annihilating them. To be concise, previously the dynamic machine killed nature whereas the dialectical machine coexists with nature which it has managed to domesticate. The difference between Henri Van Lier's position and my own consists in the fact that I consider the dialectical machines of the present to be but infants of a new species. Hence, caution is indicated in assessing the present, with the main bulk of any optimism being directed to the future.

I locate the principle upon which nature is to be domesticated much more clearly within the entire dialectical network, in the essence of the oncoming culture. Confronted with the alarming facts of the destruction of rivers, woods and fields, and in view of the more intensely manifested cultural pessimism in contemporary civilization, all this may seem a mere fantasy. The reply is quite simple: this is nothing other than a classical operation of the dynamic machine, specifically of the dynamic industrial-cultural network. The consequences of the destructive activity of this dynamism were so pernicious in the most industrialized countries of the world, that as early as the Roosevelt administration there appeared organized attempts at remedying the situation. These were rooted in common sense and the instinct of selfpreservation; partially at least they were an integral part of political and economic needs. The care taken of the Tennessee river basin furnished the most spectacular example. Within general political structures such activity supplies a humanitarian alibi for the governments of quite a few capitalist countries. Nevertheless, one cannot deny them their significance and their beneficial consequences. Recently, the struggle to purify the river Thames and the war waged against smog in London proved quite encouraging in their results. Against this background the scandals concerning water pollution acquire more significance.

As can be gauged from the foregoing, developing a dialectical network is no simple matter, both technologically and economically. Nevertheless, it is an absolute necessity and in the conditions of socialism it ought to be approached with manifest care and energy, and in full awareness of the possible negative consequences. Public opinion would seem to be sufficiently mature to accept a new hierarchy of values on condition that synergy or even a specific symbiosis of the new man with nature were not so much reinstated as constructed anew.

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NOTES

1. In the course of the present paper I shall confine myself to presenting only one kind of praxis, that is technological praxis. Cf. the classification of types of praxis in Louis Althusser and Etienne Balbo, *Lire de Capital* (Paris: Librairie Francois Maspero, 1968). However, while approving of Althusser's striving to clarify Marxist thought, I decidedly oppose his sui generis neodogmatism, which finds expression, among others in radical theses on "breaking off" with tradition (rupture or coupure epistemologique), supposedly achieved by Marx. Thus, I reject the ahistoricism and ahumanism of this French Communist (Cf., e.g., the reasoning in Chapter V entitled "Marxism Is Not Historicism").

2. Henri Van Lier, *Le Nouvel Age* (2nd ed.; Paris: Casterman, 1964). In dialectical perspective, I will adopt as a significant point of reference a part of the terminology and problematics of this inspiring and topical work. Nevertheless, the present article expresses my own proposals and critique of some of its tendencies.

3. *Ibid.*, p. 199. "Point de milieu entre l'expert et l'ignare."

4. *Ibid.*, p. 202, 203. "Artiste et public ouvriers" and "L'art contemporain est démocratique en un sens tres profond, qui va beaucoup plus loin que le bon marche et la multiplicabilite des standards." In a slightly earlier work, *Les arts de l'espace* (Paris: Casterman, 1960). p. 10, Van Lier wrote: L'art n'est donc plus lie aux loisirs d'une caste. En prenant conscience de son serieux, il s'est democratise, comme en temoignent la mentalite de ses createurs et l'extension vertigineuse de son public. Il ne s'oppose plus au travail, ni meme a la technique. Il participe a la recherche commune, sur un autre plan." This confirms the aforementioned perspective of a dialectical synthesis of opening, possible only as an intellectual correlate of a synthesized or unified society, that is, mankind understood as a community. The path towards this synthesis leads through democracy and socialism. Art, perhaps because of the present invincible animosity of many philosophies becomes, to an even greater degree than philosophy, an intellectual factor in integrating and synthesizing qualities. Similarly, the scientific and technological revolution is a material factor unifying mankind, while the socialist revolution and, above all, the construction of developed socialist societies is a political factor.

5. *Ibid.*, p. 29. "la machine mecanique . . . prolongeait le corps humain et les forces naturelles: moulins, voiliers, captaient l'eau et le vent selon leurs debit propre, les mettaient en oeuvre sans travestissement, les utilisaient sur place." It is significant that in this era of machines which copy nature and thus express a technical praxis of submission there arises as a generalization of this praxis an observant materialism akin to the one in the Enlightenment period. But it is also significant that even in that period a philosophical generalization of the socio-political praxis brought forth a poignant consciousness of the counterposing of man and the world, expressed most profoundly by Rousseau in a counterposing of culture and nature. I wrote more broadly on the counterposition of nature and culture while discussing the works of B. Baczkó in my book *Porzadek nadchodzacego swiata* (*The Arrangement of the Oncoming World*; Warsaw: Ksiazka i Wiedza, 1964), pp. 208-218.

6. *Ibid.*, p. 25. "Elle cesse d'être un moyen innocent d'alléger quelque peu les tâches humaines et d'assurer, vaille que vaille, une subsistance au jour le jour, pour apparaître comme un instrument de puissance indéfinie destiné à satisfaire des besoins également indéfinis. On peut prendre pour signal de cette mutation le passage de la machine de Newcomen à celle de Watt. Dans la Newcomen, la vapeur avait pour effet de repousser le piston, alors poussé par la pression atmosphérique: le travail dépendait de celui, fatalement limité, d'une force naturelle, le poids de l'air; nous étions toujours dans le monde du moulin à vent et à eau. Watt retourne de problème:

dorénavant, c'est la vapeur qui poussera, assument le temps moteur, et comme on peut accroître indéfiniment sa pression, la puissance elle aussi sera indéfiniment "multipliable. Ainsi les commandes passent de la nature à l'homme: l'énergétisme, tel que le développeront la thermodynamique et bientôt l'électrodynamique, est né. . . . Et la machine, qui depuis ses origines n'avait guère alerté les hommes de culture, se prit à inspirer une morale et presque une religion: celle de l'efficacité, de la quantité, du rendement, du progrès." Let us add that it is also the source of a new philosophy of pragmatism. There exists yet another aspect of those "philosophies of praxis," which appear in this way not only from dynamic technology, but above all from a class or ideological need to compete with the only authentic philosophy of praxis, i.e., Marxism. The article by Rudiger Bubner; "Eine Renaissance der praktischen Philosophie," *Philosophische Rundschau*, XXII (1975), 1-34, can serve as an example of such an ideological manoeuvre.

7. *Ibid.*, p. 30. "La locomotive, le haut fourneau, la turbine électrique et le moteur à explosion, non seulement s'isolent de l'ouvrier mais au lieu d'épouser les forces naturelles, ils les attisent de toutes les manières; ils les transmutent d'une forme dans une autre--mécanique, thermique, électrique, chimique--et c'est même à ce propos que sera découvert le concept d'énergie et le principe de sa conservation: ils le transportent en tous lieux sans rappel de leur origine. D'où le sentiment, exprimé par les témoins, de se trouver devant un nouvel être qui . . . restait inassimilable par la culture et les systèmes de valeurs consacrés, puisqu'on n'y connaissait que l'homme, la nature et quelques objets les reliant. Après les engins d'autrefois, semi-artificiels, la machine énergétique est un artifice consommé, formant un règne à part, insolite. . . . Elle est un moyen de moyen. Elle m'augure le règne du pur moyen, aussi distinct de l'homme et de la nature, aussi insolite--d'aucuns diront: monstrueux--que le règne du pur artifice.

Max Weber, *Die protestantische Ethik und der 'Geist' des Kapitalismus* absolutizes in a classical manner the ideal or religious aspect of the entire historical process, just as Van Lier in the above-mentioned reflections absolutizes an opposite aspect of the same process, i.e., technology. I use the concept of absolutization in the meaning which became commonly known in Marxist methodology after the expression used by V. I. Lenin in *The Philosophical Notebooks* (Warsaw: Ksiaaaka i wiedza, 1956), pp. 335-39. "From the point of view of primitive, vulgar and metaphysical materialism, philosophical idealism is merely nonsense. On the contrary, from the point of view of dialectical materialism, philosophical idealism is a one-sided, exaggerated, sickly growth (*uberschwengliches*) or distension (*Dietzgen*) of but one of the slight aspects at the margin of cognition into the absolute, detached from matter and nature and transformed into a diety." Cf. its chapter "W sprawie dialektyki" (Concerning Dialectics).

8. *Ibid.*, p. 33. "La machine énergétique comporte la suppression de la rareté et par là des privilèges et des classes sociales? Nous venons de voir au contraire qu'elle implique une nouvelle division en classes--celles de l'homme d'affaires, du technicien, de l'exécutant--plus aliénante que l'ancienne. D'où que nous la prenions, nous sommes au rouet."

9. *Ibid.*, p. 35. "Abstraction que la répétition et la succession stéréotypées rendues purement numériques par l'effet de l'accélération. . . . Abstraction que l'information tournant sur elle-même et faisant écran au monde au lieu de le révéler."

10. *Ibid.*, p. 34. "L'information proliférante fait écran entre l'esprit et les choses, et c'est d'ailleurs en ce sens qu'elle est passive; non qu'elle provoquerait la somnolence, mais l'activité qu'elle suscite s'adresse principalement à des substituts de réalité, images, sons, mots, phantasmes, qui ont tôt fait de devenir fantômes."

This criticism of abstractionism expresses one of the aspects of dialectical thought presented by Hegel as well as by Marx and Lenin which must be especially stressed in our perspective of the striving towards the concrete. However, while corresponding to the concept of the concrete in the dialectics of Hegel and in Marxism, they are counterposed in a synthetic presentation. Hence, only authentic Marxian and Leninist dialectics open a realistic possibility of overcoming the concrete of matter, nature and society in a new unity. This is achieved through a humanistic creationism, directed against both theocentric creationism and a dogmatic Marxism which at times is simply Neo-Hegelianism. I wrote about this problem more broadly in an article entitled: "The Two Unities of Creationism: Hegel as an Object of Negation," *Studia Filozoficzne*, XII (1974), and in my recent book, *Homo Creator* (Warsaw: Ksiazka i Wiedza, 1976), pp. 7-40. I have developed more extensive discussions of Christian thought on this topic in many other works, among them *Zyc i filozofowac* (To Live and Philosophize; Warsaw: Ksiazka i Wiedza, 1969) and an article presenting a philosophical criticism as well as an evaluation of the possibility of socio-cultural cooperation between Christians and Marxists entitled: "The Marxist-Christian Dialogue," *Dialectics and Humanism. The Polish Philosophical Quarterly*, II (1974), 117-132.

11. *Ibid.* pp. 37-38. "Tandis que la machine du XIXe siècle, encore analytique, linéaire, juxtaposée, paraissait globalement abstraite, et méritait tous les reproches qui se sont depuis toujours attachés à l'abstraction la nôtre . . . découvre assez de synergies pour que la concrétude y passe à l'avant-plan, entraînant une modification profonde de son sens culturel. . . . La mentalité concrète se campe définitivement dans la définition de la cybernétique par l'équipe de Norbert Wiener, en 1948, pour les machines d'information, . . . en 1958, pour les machines d'énergie."

12. *Ibid.*, p. 41. "Alors que dans le moteur à explosion il y a antagonisme marqué entre la compression et la déflagration, puisque celle-ci sous l'effet de la pression risque de se transformer en détonation, dans le Diesel, la compression étant la source de la déflagration réduit l'antagonisme entre elle et son effet qui la provoque en retour; elle pourra s'augmenter en l'augmentant." More precisely, this is a synergy of the second degree.

13. *Ibid.*, p. 43. "Une prévalence du tout sur la partie, ou la partie cesse d'être un rouage pour devenir un organe." Seemingly, this is again a copying of nature, but in reality the machine begins to infiltrate it and become a part of nature. Technical praxis enters nature as if from the interior, utilizing and at the same time intensifying its forces. When Marx stated in the "Capital," that science is becoming a direct productive force he saw precisely and in an unusually far-reaching manner this problem of the transition from thought (science) to activity, to praxis that creates a new world. Contrary to, among others, Althusser, and the theory of an "old" and "young" Marx and contrary to a dogmatic-scientistic orientation of some Marxists, this thesis profoundly corresponds to the famous words from the "Economic-philosophical Manuscripts": "Communism . . . as full naturalism = Humanism, as a Full humanism = naturalism; it forms a true solution of the conflict between man and nature and between man and man." (Warsaw: Ksiazka i Wiedza, 1958), p. 94.

14 *Ibid.*, pp. 43-44. "Un léger recouvrement des hélices synchrones permet de diriger uniformément sur les ailes le débit de l'air accéléré de manière à augmenter la portance. . . . Une réconciliation s'opère mais active, à base de causalités réciproques, et qui fait naître ce que Simondon appelle un "milieu associé." L'eau autour de la turbine Guimbal, l'air autour du bolide ou entre l'hélice et l'aile du Bréguet 941 ne sont pas machine; ils ne sont non plus simple nature; ils forment avec la machine une réalité médiane. Ce type de réalité n'aura qu'à prendre plus

d'amoleur, à devenir plus spectaculaire . . . pour que son incidence culturelle, l'estompement de l'ancienne nature immuable, saute aux yeux."

15. Ibid., p. 46. "La machine abstraite, dans la mesure où elle séparait les fonctions, se prêtait bien à l'explication, était aisément réparable et se montrait à des rôles très divers. Mais la machine concrète introduit un monde nouveau qui dans son ensemble est plus souple que l'ancien. "We wish to pursue the subject further in the direction of the main problem of our paper. The concrete dialectical machine is a means of creation and, simultaneously, a symbol of a new nature, not only, as Van Lier has it, of the old world. Similarly, Howard L. Parsons does not go beyond this borderline, although he writes about "the reconstruction of nature" in his work *Man, East and West: Essays in East-West Philosophy* (Amsterdam: B.R. Gruner, 1975), p. 105. That is why in the perspective of a Marxist humanistic creationism, we are concerned not only with copying and maintaining nature, but also with the creation of new nature through a scientific and technical revolution. To this one must add the maintenance of continuity between the value of the old and new nature, keeping in view that great synthesis which was inaugurated among others by the following words of Marx: "Consistent naturalism or humanism differs from idealism as well as from materialism while being at the same time the truth which unites them both. At the same time, we perceive that only naturalism is able to understand the act of universal history." (*Economic-philosophical manuscripts*. ed. cit., p. 148).

16. Ibid., p. 47. "La synergie prise dans toute son extension est synonyme de rapports organiques entre les parties machiniques . . . suggère des rapports dialectiques entre machine et nature, matière et forme . . . la machine récente introduit une nouvelle vue technique et culturelle de choses."

17. Ibid., pp. 55-56. "Le concept technique fondamental n'est plus la machine mais le réseau, ensemble synergique de machines synergiques. . . . Le réseau dialectique est à tension horizontale. Il y a des nœuds, des foyers multiples. Son ordre n'est plus hiérarchique, mais fonctionnel, comme celui qui règne entre les organes d'un corps, où chacun dépend des autres et les commande, dans une autorégulation de l'ensemble. Selon les moments et les urgences, l'initiative vient tantôt d'un point tantôt d'un autre." The dialectical network of machines is here a technical and technocratic correlate of the socialist idea of united mankind. The network itself must be "embodied" in a network of new social relations, in order to be truly universal, profoundly transform the world and establish a new reality.

18. Both manifestos of the "Club of Rome" include, from our point of view, a basic omission: neither the arrest nor the partial directing of development can save the world. What is needed is: (a) a basic acceleration of development through a scientific and technical revolution, including a power such as atomic power for peaceful purposes, and a biological (humanistic, genetic, truly "green") revolution. (Bodo Manstein, "Der Mensch ein Zerstörer der natürlichen Ordnung?" in *Was ist das der Mensch? Beiträge zur einer modernen Anthropologie* [Munich: Piper Verlag, 1968], pp. 69-79 wrote on the necessity of a "biological dialectics" [der biologischen Dialektik] and the mounting of the "barricades of the biological revolution" in order to arrest the process of devastation of the environment and to save nature. Though a pessimist, in this evaluation of the situation he calls for the use of the revolutionary instruments of science to save nature; revolution is thus seen as serving a *sui generis* conservatism!); and (b) linking of this development to an equalizing social development which leads towards a new and true community of man with mankind, technology and nature.

CHAPTER VII
NATURE AND HUMAN PRACTICE IN KARL MARX
ANDREW N. WOZNICKI

The student of Marxism faces from the beginning, not only a multitude of interpretations, but also a variety of forms of Marxist philosophy, especially in regard to the problematics of socio-political taxology.¹ Moreover, this proliferation of interpretations has led to a wide variety of contemporary socio-political movements. Although Marx was preoccupied mainly with the practical realization of his socio-political doctrine in accordance with his premise that "the philosophers have only interpreted the world in different ways; the point is to change it,"² nevertheless, he was aware of the need to develop an appropriate philosophical anthropology of the social reality as well.

In this paper my principal concern will be to develop the question of human praxis in Marx's socio-political taxology by unfolding the main philosophical principles of his theoretical doctrine on nature and man. In addition I will attempt to scrutinize critically the proposition of Professor J. Kuczynski's paper as to the practical application of Marxist socio-political philosophy to the present time by evaluating human praxis in respect to one kind of praxis, i.e., technological praxis. In this I will attempt to play a constructive role as *advocatus diaboli*, for as it has been observed rightly: "Far from being exhausted, Marxism is still very young, almost in its infancy: it has scarcely begun to develop. It remains, therefore, the philosophy of our time. We cannot go beyond it because we have not gone beyond the circumstances which engendered it."³

In applying Marxist philosophical principles to the vital problematics of contemporary technological praxis, Professor Kuczynski's approach consists mainly in an historicist and humanist evaluation of philosophy as the basic "architecture of culture," that is, of all human activities. This raises the question of the justification for the mutual relationship between philosophy and culture. Are the two really distinct one from the other? If they are, is this distinction one of kind or of degrees? In other words, is the priority of philosophy in any order of human praxis justifiable in Marxism? In dealing with the relationship of the two-fold human praxis, Professor Kuczynski refers to an historical experience of Western man and the variety of philosophical systems, while focusing upon that of Karl Marx, as "fully aware of summing up and continuing past achievements while opening new horizons." His search for a new "dialectical synthesis" of human activity as exercised today in technological praxis is centered upon three principles of Marxist socio-political taxology, namely:

1. the dialectical tension between the static and dynamic forces of technological progress according to the priority of being over consciousness;
2. the dialectical development between quantitative and qualitative transformation of technological praxis according to the "synergetic modifications" of material productivity and human creativity; and
3. the dialectical resolution of contradictions between being and becoming according to the proletarian and revolutionary socio-political activity as evidenced in "the communist civilization alone."

This paper will critically evaluate the philosophical presuppositions and possible implications of Marx's doctrine on human praxis according to the above-mentioned threefold philosophical principles.

THE PRINCIPLE OF PRIORITY OF BEING OVER CONSCIOUSNESS

Marx bases his socio-political taxeology on a two-fold motive power of human praxis, namely "use-value" and "exchange-value." A critical scrutiny of the Marxian socio-political taxeology, however, manifests a dialectical shift between the two, namely, from materiality and individuality of human praxis to sociability and division of labor in production, on the one hand, and from the proletarian and economic system of values to political and revolutionary activities, on the other. This dialectical shift within Marxist sociopolitical taxeology necessitates an analysis of the problematics of the nature of the motive power of human praxis.

Marx bases the motive power for the socio-political dialectical movement between "use-value" and "exchange-value" on the priority of being over consciousness. In other words, he maintains that there is neither an individual nor a social consciousness of men which could be a determining factor of any economic production system; it is rather the very opposite, namely, human praxis is determined by production. To be more specific let us recall the fact that although Marx did not reduce human social praxis entirely to economic forces, he certainly considered the economic value system to be the predominant force. In arguing this, he insisted that his doctrine of a two-fold value system in economy was discovered by his observation of development "during the period of manufacture."⁴ He also attempts to prove his doctrine of human praxis historically, especially by relating it to the teaching of Plato and Aristotle. Referring to Plato's theory of human material production Marx said:

This standpoint of use-value alone is taken by Plato, who treats the division of labor as the foundation on which the division of society into classes is based. . . . Plato's Republic, insofar as the division of labor is treated in it as the formative principle of the State, is merely the Athenian idealization of the Egyptian caste system.⁵

Referring to the doctrine of Aristotle, he admits that "in the form of commodity values all labor is expressed as equivalent to human labor, and consequently is labor of equal worth."⁶ With this view of the Aristotelean doctrine of economic and social systems, Marx ascribes to Aristotle a discrepancy between his doctrine of the equality of values in material production and the factual or existing inequality of men in the social stratification of the Athenian State. Marx's sole explanation of this is that Aristotle was prevented from discovering it because of "the historical limitation of the society in which he lived"⁷

However, Marx's presupposition of the priority of being over human consciousness seems to contradict this explanation of the discrepancy in the Aristotelean economic and social doctrine. This suggests some possible ambiguity in the Marxist notion of praxis: does it mean economic force only, or does it signify any kind of human activity which could determine material production as such? If the former, then the case of Aristotle is merely an accident and is explained by Marx on the basis of historical circumstances; if the latter, then one must admit that there is no necessary priority of being over human praxis. The only alternative would be to presuppose that there is a specific dialectical "leap" between the quantity of material production or exchange-value, and the quality of human consciousness or use-value, but in either case the

relation between being (economy) and human praxis (consciousness) must be proven rather than taken for granted.

Moreover, even were we to agree with Marx that there is priority of being over consciousness, and accept in principle the Marxist philosophical presupposition that human praxis is determined by material production, this priority could not have an ontological but only a dialectical character, that is, it could not be purely in the objective reality of material production, but must be also intertwined somehow with the human non-material element of man's consciousness. In other words, human praxis understood as man's consciousness, in order to be determined by the economic well-being of human social praxis as the antithesis of material production, would have to have a self-contained reality which differs ontologically from pure materiality. The materialistic triads of the historical development of human praxis would never be completed in an ultimate synthesis by a final dissolution of the socioproductive contradictions between different economic and political systems which, according to Marxist anthropology, is to take place in "communism." This self-developing and self-destructing power of human praxis and material production requires an essential and real distinction between being and consciousness, that is, that somehow and in some form there be a real distinction between matter and spirit. Consequently, neither idealistic nor materialistic interpretations could logically claim to be the whole and complete truth.

THE PRINCIPLE OF MATERIAL PRODUCTIVITY AND HUMAN CREATIVITY

According to Marx, the main failure of any traditional materialistic philosophy is that reality (Gegenstand) has been "conceived only in the form of objects of observation but not as human sense activity, not as practical activity, not subjectively."⁸ As a result, all previous variants of materialism neglected the human reality which manifests itself in man's activity. It is also the conviction of Marx that his own socio-political philosophy does recognize the subjective element as the main motive power of human activity in shaping man's consciousness which is based on both material productivity and human creativity.

Thus, referring to the division of labor, Marx holds that there is a real division between material productivity and human creativity. In his German Ideology he says:

The division of labor only becomes a real division from the moment when the distinction between material and mental labor appears. From this moment, consciousness can really imagine that it is something other than consciousness of existing practice, that is, really conceiving something without conceiving something real; from now on consciousness is in a position to emancipate itself from the world and to proceed to the formation of `pure' theory, philosophy, ethics, etc.⁹

In view of this text it should be evident that for Marx the real division of material productivity and human creativity involves contradictions in which their natures continue to co-exist. Continuing his analysis of the nature of "the distinction between material and mental labor," Marx says that:

Even if the theory (i.e., `pure' theory), theology, philosophy, ethics, etc., comes into contradiction with existing conditions, this can only occur as a result of the fact that the existing social relations have come into contradiction with the existing forces of production.¹⁰

Moreover, although Marx attributes to human praxis some immateriality of its own, noting that "it is quite immaterial what consciousness starts to do on its own,"¹¹ nevertheless, ontologically speaking, there is no real distinction between material productivity and human creativity. In other words, to distinguish between material production and human creativity on the one hand, and within the division of labor regardless of the actual system on the other, is merely dialectical; it consists in the self-resolving motive power of many different contradictions of which one element becomes a condition for another. This raises the question of whether this dialectical self-resolving power of contradictory elements is truly real, whether, for instance, it is found in the very nature of motion which according to Marx is the mode of existence of matter, or whether it is only intentionally real and found within "mental labor," for instance, in any planning of productive forces by the existing social organizations. If the former, then there is again no real distinction between material productivity and human creativity, because the dialectical self-resolving power of contradictions contained in any social system would be determined by material forces as such; if the latter, then ontologically speaking neither production system would be privileged because there would be unlimited possibilities of controlling the material forces in any production system by "mental labor."

Turning to the division of labor which depends on both material and mental elements, Marx insists that there are three main factors in the dialectical resolutions of all contradictions existing in any taxeological system. They are: "the forces of production, the condition of society, and consciousness."¹² Referring to these factors Marx adds that they

can and must come into contradiction with one another, because the divisions of labor imply the possibility, indeed the fact, that intellectual and material activity--enjoyment and labor, production and consumption--devolve on different individuals and that the only possibility of their not coming into contradiction lies in the abolition, in its turn, of the division of labor.¹³

The interdependency of material productivity and human creativity resolves the seeming contradiction between economic equality in the division of labor and social inequality in the aforementioned reference to Aristotle. Further, Marx's understanding of praxis as both material and mental value enables him to explain the dialectical interreaction in the process of any system of division of labor. In other words, the dialectical interreaction between material and mental elements leads to the establishment of various relationships between the value of products and social reality:

Thus, when men bring the products of their labor into relation with each other as values, it is not because they see in these articles the mere material receptacles of homogeneous human labor. Quite the contrary. Whenever by an exchange men equate as values their different products, by that very act they also equate as human labor the different kinds of labor dependent upon them. They are not aware of this, but they do it.¹⁴

Thus, the distinction between material productivity and human creativity, as well as the very nature of the dialectical interrelationship among material and mental activities leads Marx to the conclusion that there is a unilateral and hierarchical relationship between value systems. To quote Marx himself:

Value, therefore, does not carry a label describing what it is. It is a value, rather, that converts every product of labor into a social hieroglyph. Later on, men try to

decipher the hieroglyph, to penetrate the secret of their own social products, for to stamp an object of utility as a value is just as much a social product as it is language. The recent discovery, that the products of labor, so far as they are values, are but material expressions of the human labor spent in their production, marks indeed an epoch in the history of the development of the human race, but does not by any means dissipate the mist through which the social character of labor appears as an objective character of the products themselves. Thus, despite this discovery what is true only for this particular form of production (commodity production), namely, that the specific social character of the labor of independent producers consists in the equivalence of every kind of labor, as human labor, and that it assumes in the product the form of value--this fact appears to those caught up in their relationship of commodity production as the final truth. In the same way, the scientific analysis of air into its component elements left the atmosphere as an experienced physical object unchanged.¹⁵

This priority of the material praxis over the human praxis brings us to the third and final principle of Marx's social taxology according to which the relationship between material productivity and human creativity is both proletarian in nature and revolutionary in character.

THE PRINCIPLE OF BEING AND BECOMING

In his Theses on Feuerbach, Marx enumerates the following characteristics of human praxis: human sense activity, practical activity, real sense activity, human activity, objective activity, revolutionary activity, practical activity, "this-sidedness" of his (man's) thinking in practice, practical revolutionary practice, revolutionary practice, revolutionized in practice.¹⁶ In this sketchy summary, human praxis is described in both an objective and a subjective manner. The "objective" element of human praxis points to the very nature of material things through which human praxis can constitute itself as relating its own self to the outer self according to the actual conditions of material production. The "subjective" element of human praxis contains factors in man's activity which constitute its own selfhood, through which material production is found in the process of becoming. In other words, human praxis consists in a specific dialectical tension between being and becoming, necessity and contingency, things and human activities. This raises the question: Is the fundamental motive power of human praxis objective or subjective? To answer this question one must analyze Marx's understanding of praxis as a principle of being and becoming.

In the order of being, praxis is conceived as something which is done, can be done or has the readiness to be done. (This is similar to the Heideggerian notion of praxis as *Vorhandensein* and *Zuhandensein*.) In the objective sense praxis is expressed in the form of a result obtained by man's activities and presents itself linguistically as a noun, namely as 'deed' and 'product.' Praxis, however, understood as a 'deed' or 'product' presupposes a subject which makes praxis to be praxis. In *Theorien über den Mehrwert* Marx says:

Man himself is the basis of his material production, as of all production which he accomplishes. All circumstances, therefore, which affect man, the subject of production, have a greater or lesser influence upon all his functions and activities as the creator of material wealth, of commodities.¹⁷

Man, then, is the creator of material wealth and, as such, the main motive power transforming things. "In this sense, it can truly be asserted that all human relations and functions, however and wherever they manifest themselves, influence material production and have a more or less determining effect upon it."¹⁸ In the order of becoming then, praxis is the very condition of developing the productive forces of things by the human creative activity which is contained in the process as such and reveals itself linguistically as a verb: `to act' or `to work'. Consequently, in the dialectical tension between being and becoming, the praxis of nature is interrelated with that of human activity.

In human praxis, however, Marx emphasizes that in this interrelationship which takes place between the objective and subjective elements of material productivity and human creativity there is not always a proper and just order of distribution of material goods among men. According to him, this social maladjustment consists in the fact that the `surplus-values' are not equally distributed between the owner and the producers. In this respect, Engels sees Marx making "two great discoveries": "the materialist conception of history and the revelation of the secret of capitalist production through surplus value."¹⁸ The main purpose of Marxist taxology consists in rooting out the social injustice found in economic systems.

The contemporary socio-political situation is characterized by a new division of labor between the owners of material goods and the producers of commodities. In fact, the new economic and human reality manifested in mutual interreaction and correlation indicates that human social praxis is proletarian in nature and revolutionary in character. Social praxis is proletarian because there is in capitalism an unequal division of the social product between the workers and the owner, since all `surplus-value' is captured by the owners of the material goods. Political praxis has, on the other hand, a revolutionary character because, due to his refusal to share the `surplus-values,' social inequality will never be voluntarily eliminated by the capitalist. The reason is that:

Political economy, which as an independent science first sprang into being during the period of manufacture, views the social division of labor only from the standpoint of manufacture, and sees in it only the means for producing more commodities with a given quantity of labor, and consequently, of cheapening commodities and speeding up the accumulation of capital.²⁰

However the final question arises: Why must human social praxis have a proletarian and revolutionary character? Does it have any compulsion to accept these postulates as absolute and ontologically necessary in ultimately resolving social injustice in the contemporary world? Unfortunately, neither Marx nor his followers could prove the ontological necessity of holding the proletarian and revolutionary postulates. Several non-Marxist thinkers, however, insist that the Marxist socio-political taxology is arbitrary, and that the postulates for the proletarian and revolutionary activities include both a *circulum vitiosi* and a *petitio principii*.

I would conclude this paper with three critical observations on these postulates, one from a Marxist and two from non-Marxist socio-political philosophers:

Svetozar Stojanovic from the Corcula-Group of the Yugoslav philosophers and editor of the Journal, Praxis, formulated a new `categorical imperative' for his fellow thinkers and compatriots: Act in such a way that you neither consider your own human dignity nor that of your fellowmen available as means for revolutionary purposes.²¹

Narczyz Lubnicki, the Polish logician and methodologist from the Maria Sklodowska University in Lublin, charges that the proletarian characterization of socio-political change involves a *circulum vitiosum* and *petitio principii*.

The thesis of class character contains the error of a circular argument as well as assuming what needs to be proved; this thesis is presupposed proved, disregarding the fact that it demands independent warrant. Apart from the influence of the physical and social environment on the mentality of the investigator of that environment, a sincere intention objectively to analyze a given problem will certainly lead to less falsification of the result of the inquiry than would a conscious class conditioning or racial political tendency.²²

A leading praxeologist, Tadeusz Kotarbinski, voices the opinion that praxis is not necessarily revolutionary, but can also be based on positive cooperation. In his *Traktat o Dobrej Robocie*, Kotarbinski distinguishes two sorts of relationships in human praxeology, a positive one, which could lead to coexistence of different and at times radically opposed systems of values, and a negative one involving conflict. By the very nature of human praxis the latter is not the only possible way of overcoming the tension existing between values systems, if good will can be postulated. Human action, then, is not necessarily based on Emmanuel Lasker's *Machology*, but can also be dealt with in *detente*.

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NOTES

1. By the term 'taxeology' the author understands a science of arrangement (from Greek: *taxis*).

2. *Theses on Feuerbach*, in: *Marx-Engels Gesamtausgabe (MEGA)*. 1, 5, p. 535. (The English trans. of T.B. Bottomore in *Karl Marx, Selected Writings in Sociology and Social Philosophy* [New York: McGraw-Hill, 1956] will be followed and compared throughout).

3. Jean Paul Sartre, *Search for a Method* (New York: Alfred Knopf, 1963), p. 30.

4. *Capital*, in: *Volksausgabe (VA)*, 1, p. 383.

5. *Ibid.*, p. 386.

6. *Ibid.*, p. 65.

7. *Ibid.*

8. *Theses on Feuerbach*, *MEGA*, 1, 5, p. 533.

9. *MEGA*. 1, 5, p. 21.

10. *Ibid.*

11. *Ibid.*

12. *Ibid.*

13. *Ibid.*

14. *Capital*, *VA*, 1, p. 79.

15. *Ibid.*, pp. 79-80.

16. *MEGA*. 1, 5.

17. Vol. 1, pp. 388-9, ed. by Karl Kautsky, 1905-1910.

18. *Ibid.*

19. *Anti-Duhrino*, *MEGA*, p. 9.

20. Capital, VA, 1, p. 383.
21. Cf. G. Petrovic, "What is Freedom?," Praxis, IV (1965), pp. 419-432.
22. Teoria poznania materializmu dialektycznego (Lublin: Uniwersytetu Marie Curie-Sklodowskiej, 1946), p. 125.

CHAPTER VIII
PRAXIS AND NATURE
SATINDRANATH CHAKRAVARTI

PRAXIS

The roots of the philosophy of praxis can be traced to the Hegelian system itself. The young Hegelians. Arnold Ruge, Bruno Bauer, Moses Hess and others, were fascinated by the term and some gave it a new meaning by stressing the connection between it and the social sphere. In an essay written in 1943, Ruge says this about Hegelian philosophy:

Nowhere has the theoretical emancipation been so thoroughly carried out as in Germany. The birth of real, practical freedom is in the transition of its demands to the masses. The demand is only a symptom of the fact that theory has been well-digested and has been successful in its breakthrough into existence. The ultimate end of theoretical emancipation is practical emancipation. But 'praxis', on the other hand, is nothing else than the movement of the mass in the spirit of theory.

It was Feuerbach, however, who brought out the connection between matter and the content of a political movement, and identified praxis with the material forces inherent in the masses. In a letter to Ruge, dated 1843, he wrote:

What is theory, what is practice? Wherein lies their difference? Theoretical is that which is hidden in my head only, practical is that which is speaking in many heads. What unites many heads creates a mass, extends itself and this finds its place in the world. If it is possible to create a new organ for the new principle, then this is praxis, which should never be missed.

While the new and revolutionary relationship between theory and practice was shaped by the young Hegelians, it was Marx who introduced a concrete historical content into this relationship. His early writings reveal that, from one standpoint, a synthesizer attempting to combine the view that 'philosophy is its own time apprehended in thought' with the notion that ascribes to philosophy a constructive role in shaping human development.

In 1842, Marx wrote:

But philosophers do not grow like mushrooms, out of the earth; they are the outgrowth of their period, their nation, whose most subtle, delicate and invisible juice abounds in the philosophical ideas. The same spirit that constructs the philosophical system in the mind of the philosopher builds the railways with the hands of the trade. Philosophy does not reside outside the world just as the mind does not reside outside man, just because it is not located in his belly.

Marx takes his point of departure from the Hegelian view that philosophy is always related to historical actuality. He points out, however, that the philosophical medium itself severs the link between reality and its philosophical reflection, causing the illusion that the object of philosophy is philosophy itself. The result is a merely contemplative attitude which has no object and which endangers all philosophical speculation. Philosophy is reduced to a mere ineffectual

fluttering of wings in the air; its translation into an objective language, that is, language relating to objects or praxis is thereby rendered ineffective.

Marx holds that only the unity of theory and practice transfers man from an objectless world into the sphere of objective activity. He wrote, therefore, in 1842:

As every true philosophy is the quintessence of its age, the time must come about when philosophy will get in touch with the real world of its time and establish a reciprocal relationship with it not only internally, through its content, but also externally, through its phenomenal manifestation as well. Then philosophy will cease to be just a system among systems, but will turn to be a philosophy in general, confronting the world.

To understand the Marxian concept of praxis, one has to understand the specific nature of Marx's materialism or naturalism. Praxis, to Marx, is both cognitive and social. He had a more or less organized system of beliefs as to the nature of reality and the nature of man. Marx was a materialist. He believed: (a) in the primacy of matter, a term which denotes the totality of material objects and not the substratum of all the changes which take place in the world; (b) that the existence of mind without matter is a figment of the imagination; (c) the rule of the laws of nature; and (d) the independent existence of the external world. Yet, while materialism constituted Marx's general frame of reference, Marxian materialism rejects mechanistic materialism and evolves a novel anthropological conception of nature.

In *Economic and Philosophic Manuscripts of 1844* and *The German Ideology*, Marx rejects as untenable the theory of knowledge of the British empiricists, the French materialists and Feuerbach. These philosophers held (a) that man is a product of circumstances and upbringing, (b) that the human mind is a passive recipient of sensations, and (c) that perception is a mere effect produced in the senses by external stimuli.

However, Marx points out that the causal theory of perception cannot explain the simplest act of cognition, not to speak of its explaining the vast range of human experience; nor can it account for the social change and evolution of man. He is convinced that idealists, especially Hegel, are correct in emphasizing the contribution and role of the 'subject' in the process of cognition; this conviction finds expression in his First and Third Thesis on Feuerbach. He recognizes that it is idealism that develops the "active side" of cognition, although idealism does not know real "sensuous activity as such." Marx believes that Hegel is wrong, however, when he conceives the mind as an autonomous activity independent of and undetermined by its material and social environment, pointing out that Hegel regards this environment as posited by the mind's own creativity.

By introducing the concept of "praxis" and giving it a new dimension, Marx first of all tries to rehabilitate the world of sense and restores the "practical sensuous" in knowledge. The human world has been created by men and women in the course of their history, starting from an original nature, but this nature when received by us has already been transformed by human practice and the efforts of men, through tools, language, concepts and signs. The enormous scope of praxis in human creation can be perceived by all with eyes to see, for human labor encompasses landscapes, cities, objects of common use and even artistic creations. The sensuous leads us to the concept of praxis and this concept, in turn, upholds the richness of the sensuous.

Praxis can be studied at different levels: as the base or foundation, i.e., as productive forces, techniques, organization of labor; as structures, i.e., as institutions and ideologies. Lefebvre studies praxis under another schema, namely, the repetitive, the innovating and, between these

two extremes, the mimetic. In 18th Brumaire. Marx refers to historical acts which imitate the past and borrow their customs, gestures and words from famous models. This following of models is mimetic praxis; occasionally it may create without knowing how or why, but more often it imitates without creating. In repetitive praxis, the same gestures, the same acts are performed again and again within determined circles. In innovating or inventive praxis, activity is directed both toward knowledge and culture, or ideology, and toward the field of politics. Political action condenses all partial changes in a total phenomenon; when this happens we have what is called "revolution." Revolution embraces society as a whole and transforms the mode of production, property relations, ideas and institutions, in short, the entire way of life. We might add that revolutionary praxis introduces intelligibility into social relations. Lefebvre says,

Thanks to it, thought and feeling are once again brought into accord with the productive forces (the base), social forms into accord with their contents. Here, again, we encounter the fundamental idea of going beyond a given historical stage, of progressing to a higher stage. It creates intelligibility as living reason in the heads of men and as rationality in social relations.

MARX'S CONCEPT OF NATURE

Marx, the journalist, historian, social scientist, economist and knight of class-struggle, is recognized today as one of the foremost thinkers to have made their impact on history. But Marx, the philosopher, is anathema even today in academic circles. Though he was a blunt-spoken philosopher and did not elaborate a systematic philosophy in the manner of Hegel, that does not suffice to explain why he is not recognized as having had a definite conception of nature, man and society. Of late, the central importance of Marx's concept of nature in the formulation of historical materialism is gradually receiving more attention.

Traditionally the tendency has been to counterpose an abstract concept of man with an abstract concept of nature. Marxism cuts across this tendency and shows how the development of industry and science mediates between historical man and external nature. This mediation may result either in their eventual reconciliation or in their mutual destruction. Marx's concept of nature has to be understood in its socio-historical character. He considers nature to be "the primary source of all instruments and objects of labor," seeing nature from the beginning in relation to human activity. Every statement about nature, whether of a speculative, epistemological or scientific kind, according to Marx, already presupposes social practice, that is, the ensemble of man's technologico-economic modes of appropriation.

One is inclined to observe that the sensuous world and finite men in their social milieu are the only digits taken into account by Marx. There exist for him only "man and his labor on the one side, nature and its materials on the other."

On the basis of the objective logic of the human work-situation, however, Marx attempts to comprehend the other areas of life as well. "Technology discloses man's mode of dealing with nature, the process of production by which he sustains his life, and thereby also lays bare the mode of formation of his social relations, and of the mental conceptions that flow from them."

Nature interested Marx mainly as a constituent element of human practice. This is his position in the 1844 Manuscripts. "Nature, taken abstractly, for itself, rigidly separated from man, is nothing for man." Nature in itself, in its pristine purity and unworked is economically valueless; it has a purely potential value which awaits its realization. In Grundrisse, Marx writes the material of nature alone insofar as no human labor is embodied in it, insofar as it is mere

material and exists independently of human labor, has no value, since value only embodied labor"

Passages in *The Holy Family* reveal that Marx was conducting a battle on three fronts. He criticizes Spinoza's concept of substance, that is, that nature exists "in itself" without human intervention or mediation. He criticizes also Fichte's Self-consciousness, that is, the concept of the 'Subject' with capital 'S', and he criticizes the ascription of independence to consciousness and its functions in relation to nature. Marx emphasizes that the mediating subject is not simply "Spirit," but man as a productive force. Finally, he points out that the Hegelian Absolute, while uniting substance and subject, has not been concretely and historically established but only "metaphysically travestied." Marx writes:

In Hegel there are three elements, Spinoza's substance, Fichte's Self-consciousness and the necessarily contradictory Hegelian unity of both, the Absolute Spirit. The first element is metaphysically travestied nature severed from man; the second is the metaphysically travestied spirit severed from nature; the third is the metaphysically travestied unity of real man and the real human race.

Marx's emphasis in such passages is that Nature cannot be separated from man, that man and the accomplishments of his spirit cannot be separated from nature, and that even man's capacity for thought and reasoning is a product of nature and history. True, Marx accepts that the sensuous world, nature, is not "a thing given direct from all eternity" and remaining ever the same. It is the product of industry and the state of society. At the same time, however, he accepts that this society-mediated world is a "natural world," historically anterior to all human societies. Marx does not concede the point that because of "social mediation" the priority of external nature is assailed and the laws of nature cease to be objective.

Two points emerge from Marx's concept of nature. First, material reality is from the beginning socially mediated. Second, matter as such is an abstraction and is present only in definite modes of existence. Marx would not pose abstractly the question of a pre-human and pre-social existence of nature, for each presupposes a definite stage of the theoretical and practical appropriation of nature. He admitted no absolute division between nature and society and precisely because of this did not accept any fundamental methodological distinction between the natural and historical sciences. He wrote in *The German Ideology*:

We know only a single science, the science of history. History can be contemplated from two sides, it can be divided into the history of nature and the history of mankind. However, the two sides are not to be divided off; as long as men exist the history of nature and the history of men are mutually conditioned.

In criticizing Bruno Bauer, Marx said, nature and history are "not two separate 'things'." Men always have before them a historical nature and a natural history."

The novelty of Marx's view is that, on the one hand, he does not accept the feasibility of an "intellectual history" investigating a purely immanent succession of ideas. On the other hand, he rejects the concept of nature, historically unmodified, which is supposed to exist as an "object" of natural-scientific knowledge. According to him, the historical practice of men, their activity, is the increasingly effective connecting link between the two apparently separate areas of reality. The 1844 Manuscripts envisage, as a result of the reconciliation of nature and history through practice under Communism, a fusion of natural science and historical science, that is, the science

of man. "Natural science will one day incorporate the science of man, just as the science of man will incorporate natural science; there will be a single science."

Marx did not deny that matter has its own laws and its own movement. What he sought to emphasize is the truth that matter's laws of motion can only be recognized and suitably applied by men through the agency of mediating practice. The laws of nature exist independently of, and outside, the consciousness and will of men. Man, Marx holds, can only become certain of their operation through the forms provided by their labor processes. While, in a sense, the laws of nature are thus "independent," they are also socially determined. Marx, therefore, writes to Kugelmann: "It is absolutely impossible to transcend the laws of nature. What can change in historically different circumstances is only the form in which these laws express themselves." Nature cannot be wished away; its power cannot be broken entirely; but it can be ruled in accordance with its own laws.

Though society also faces the same laws of nature, its socio-historical structure determines the manner in which men are subjected to these laws, their mode and field of application, and the degree and extent to which they can be understood and made socially useful.

PRAXIS AND NATURE: THE MODE OF REFLECTION

Does knowledge consist exclusively of the passive imitation of objective structures; can it be conceived in the manner of mirror-reflection? Marx would say that 'nature' is a human world and 'man' an active, dynamic, tool-making agent. In the course of history man's organized intervention into natural processes becomes more comprehensive, with the consequence that nature appears to be made rather than given. Marx would not, therefore, subscribe to the 'passive-imitation theory' of knowledge, though there are writers who want to emphasize that he adhered to a 'reflection theory' of knowledge.

But can one speak at all of a 'theory of knowledge' in Marx? For him, the culmination of epistemology is the philosophy of world history. Traditionally, the process of knowledge is described as a relation between the 'subject' and the 'object' which is, as it were, eternally fixed. Classical German Philosophy, however, had arrived at the theory of the 'unity of theory and practice', and this was accepted by Marx. Therefore, Marx believed that theoretical reflections should correspond to the different forms of human praxis, that is, his struggle with nature. Since the subject and object of knowledge are inseparable, he argued, the cognitive consciousness is a form of social consciousness; it should not, then, be viewed in isolation from psychology and human history. The cultivation of the five senses is also the work of all previous history.

Marx developed a kind of genealogy of conceptual thought, the essence of which is that consciousness is not a fixed datum but springs from history and is subject to historical change. He wrote:

For the doctrinaire professor man's relation to nature is from the beginning not practical, i.e., based on action, but theoretical. Man stands in relation with the objects of the external world as the means to satisfy his needs. But men do not begin by standing 'in this theoretical relation with the objects of the external world'. Like all animals they begin by eating, drinking, etc., i.e., they do not stand in any relation, but are engaged in activity, appropriate certain objects of the external world by means of their actions, and in this way satisfy their needs (i.e., they begin with production). As a result of the repetition of this process it is imprinted in their minds that objects are capable of "satisfying" the 'needs' of

men. Men and animals also learn to distinguish 'theoretically' the external objects which serve to satisfy their needs from all other objects. At a certain level of later development, with the growth and multiplication of men's needs and the types of action required to satisfy these needs, they gave names to whole classes of these objects, already distinguished from other objects on the basis of experience. That was a necessary process, since in the process of production, i.e., the process of appropriation of objects, men are in a continuous working relationship with each other and with individual objects, and also immediately become involved in conflict with other men over these objects. Yet this denomination is only the conceptual expression of something which repeated action has converted into experience, namely, that fact that for men, who already live in certain social bounds (this assumption follows necessarily from the existence of language), certain external objects serve to satisfy their needs.

Marx's emphasis here is that man's relation to nature is neither an abstractly fixed datum, nor initially theoretical and reflective, but always practical and transforming. Production comes with sensuous needs and all those human functions which transcend the immediacy of the given develop with production. Nature appears at first to be a chaotic mass of materials. From repeated intercourse with nature, common to men and animals alike, there emerges an initial classification of natural objects according as they produce pleasure or pain. The theoretical achievement at this level is undoubtedly elementary. True, structures are established and objects with pleasurable associations are isolated from others. But assignment of names to different objects with a view to exercising control over them corresponds to the economically more advanced, and hence more organized, human group and the contradictions emerging in it. Despite his materialism Marx did not see in "concepts" naively realistic impressions of the objects themselves, but reflections of the historically mediated relations of men to those objects.

From the above, it follows that a formal analysis of consciousness or cognition, or knowledge about knowledge, isolated from problems of fact and content is not possible. Also, the problem of knowledge, if it truly exists by itself, cannot be separated from a whole ensemble of more or less well-defined historical conditions. There cannot be any problem of knowledge until the concrete, practical functions of knowledge have been exercised. This exercise does not occur by chance or in itself, but in the situation which gives it its form.

One is inclined to observe, after Marx, that practice has already accomplished the mediation of subject and object; only later does it become the theme of reflection. Marx was a 'realist' inasmuch as he considered that any productive activity presupposed "natural material" existing independently of men. He was at the same time not a 'naive realist', in that for him, men did not persist in the contemplation of the immediate but continuously transformed it within the framework of nature's laws. Praxis or labor destroys things as immediate, but restores them as mediate; filtered through human practice, a thing-in-itself becomes a thing-for-us.

It may be noticed that Marx did not accept the rigid dualism of the epistemological position which had dominated modern European thought since Descartes. German philosophy, no doubt, tried to overcome this dualism, but only on a speculative basis. Marx did the same on a materialist basis. In the 1844 Manuscripts Marx wrote:

It is only in the social context that subjectivism and objectivism, spiritualism and materialism, activity and passivity, cease to be antinomies and thus cease to exist

as such antinomies. The resolution of theoretical contradictions is possible only through practical means, only through the practical energy of man.

In Marx's materialism nature and society are mutually mediated within nature, i.e., reality as a whole. The social subject, through which all objectivity is filtered, is only a space-time-determined component of this objectivity, and it is social practice that unites the moments of knowledge and mediates the transition from one to the other.

The theory of knowledge as reflection where consciousness and its object are placed in opposition to each other cannot, therefore, be ascribed to Marx. By accepting the constitutive role of praxis for the object, Marx rejected the aforementioned theory. The objective world is no more in itself to be reflected, it is largely a social-historical product. Alfred Schmidt, therefore, is correct in saying:

Consciousness always enters as an active spirit into the reality reproduced by it. It is the task of knowledge not to capitulate before reality, which stands around men like a stone wall. Knowledge by revivifying the human historical processes which have been submerged in the established facts, proves that reality is produced by men and hence can be changed by them; practice, as the most important concept of knowledge, changes into the concept of political action.

In summary: Marx, it seems, understood the development of man's conceptual apparatus as an effort aimed at a continually more exact reproduction of a humanized external world which has its own objective laws. According to him, human cognition, though incapable of absolutely and finally mastering its object, approaches it in a constant and progressive evolution. Human cognition, moreover, reproduces ever more faithfully (and this is in the ideal order) the structures and patterns of the external world which are themselves outside human thought. For Marx, knowledge is a social construction and the categories are constructional tools.

Calcutta, India

CHAPTER IX
NATURE AND FREEDOM
KALIDAS BHATTACHARYYA

NATURE VS. FREEDOM

The Notion of Nature

The term 'Nature' stands for the totality of contents that are natural. By 'natural' is meant whatever is in space and/or time and is causally determined by some or all other such spatial-temporal contents. Of natural contents, the physical are in time and space, whereas the mental are in time only. Whenever some mental contents appear to be also in space, as for example in the case of images, either this is due to a misreading of the corresponding introspection or the space in question, never able to be pinpointed as statically there, is only a function of time. Mere space and time, however, are not sufficient criteria for designating something as natural. Primarily, whatever is natural is understood by that very fact to be real also. Illusory contents, though spatial and temporal, are not normally understood to belong to Nature; their space, if not their time also,¹ is often held to be illusory. At least in our understanding, the reality of the natural content is its causal determination by other such contents. True, these other contents too must be real in their turn, but that reality, again, has to be understood in the same way. As everyone knows, questions about the causal determination of Nature as such would all be illegitimate for one who is wholly immersed in it; ex hypothesi a first cause, if any, would be beyond Nature. That there is causal determination in² Nature implies, if this not be stating the same thing over again, that every natural content is believed to be derivable, inductively or deductively, from its determinants.

One might ask further concerning the status of a class of phenomena which, though accreditedly "natural," are not yet as determinate, that is, as precisely foreseeable as are the movements of gross matter, namely, what is the status of the behaviors of living creatures and, especially, human actions which are said to be self-consciously free. Does not the picture get very complicated when we are told that infra-atomic material behaviors are indeterminate throughout? Are all these behaviors to be excluded from Nature?

We contend that actions which are specifically human and said to be free are in an important sense outside Nature, but that the other two classes of phenomena are still natural. Behaviors of living creatures, including those of man insofar as he is living, may not be as determinate as the behaviors of gross matter, but that does not disqualify them for all causal determination. Life phenomena may not be as mechanical as movements of gross matter, but neither are they, like human actions, self-consciously free. They are not self-conscious at all, and hence not free like human actions. Similarly the indeterminacy of infra-atomic behaviors falls short of freedom.

Actions which are self-consciously free begin with resisting Nature.³ We shall see later in what precise sense this is so. There is no question of such resistance, however, on the part of life-behaviors. The word 'life' is used here in a wide sense covering those mental phenomena which are not self-conscious, that is, conscious of transcending or going against Nature, resisting its pressure, howsoever slightly. In other words, 'life' includes all mechanical bodily and mental behaviors.

If life-behaviors that are not free are nonetheless called indeterminate, this is because they are not always, and in every respect, as determinate as movements of dead masses of matter. Given certain conditions, how such matter will behave can be calculated beforehand with all precision and in every detail. It is not so with life-behavior and one might ask why dead physical movements⁴ alone should be called determinate and held in such exaggerated esteem that any movement falling even a little short of it risks flat non-recognition? Life-behaviors are still determinate. First, as manifest, they are dead physicals through and through, subject to all the laws of physical determination. Secondly and more to our purpose, there is at least a pervasive systematic correlation between living behaviors in one series and avowedly physical movements in another series, so that if there is a relation of determination among the items of the second series one may reasonably postulate some such determination in the first series as well, though that determination is weaker inasmuch as it is not directly tractable. In fact, we instinctively depend upon such postulation in our day-to-day dealings with living behaviors and self-consciously use it when we study them. It is at the basis of all logic of probability and is not very different from normal inductive procedures.

The Notion of Freedom

We have just seen that of the three classes of behaviors which appear to be indeterminate lifebehaviors are not really so. In spite of all appearance to the contrary they are determinate, though in a way different from movements of dead physical masses. We have also claimed that human actions which are self-consciously free are, so far, really exempt from causal determination and in that respect outside Nature. This claim will be substantiated in the present section. The exact character of the indeterminacy of infra-atomic physical behaviors will be taken up in the next section.

Human actions differ considerably from both life-behaviors and gross physical movements. Intrinsically, they are unforeseeable and beyond statistical expectation. Though man often behaves predictably, most of these predictable behaviors are not characteristically human. Being a living creature man must behave to a considerable degree like other living creatures, whether in order to care for his sheer biological needs or under mechanical social pressures which for most men are little more than herd-instinct. Where, at a higher and distinctively human level he appears to behave mechanically, this is because once having freely chosen to act according to some norm he forms a habit of acting that way. These are determinate behaviors, but what is characteristically human is his self-conscious free acts.

We add--and this is central--that with regard to one's mechanical behavior there is no way of knowing that our calculated expectations of what one will do under given conditions will not be betrayed. This is no empty possibility and indeed we are often betrayed in this manner. True, once this happens it can always be shown that what one did was after all determined by a more subtle (natural) phenomenon that escaped our notice when we made the calculations. Nevertheless, the obstinate counter-possibility continues, now pushed back a little by saying that he might not have succumbed to that antecedent determinant.

This 'might not have' is no empty possibility. In the case of behaviors which are sheerly physical and may also be living we never speak of such contingency except metaphorically. In the case of man, however, we not only speak of it, and at times seriously, but the possibility of not succumbing is abundantly actualized in the explicit form of non-attachment. This 'non-attachment' is self-conscious withdrawal from a particular desire or aversion which is otherwise

compelling. Man qua man often consciously refuses to succumb to external or internal pressure, whether or not he succumbs immediately afterwards to another such pressure. By practice he may learn in this way to resist succumbing to a large number of such pressures, if not ultimately to all of them. Refusal to succumb to a pressure may not be causally determined by attachment to another pressure; it may well be only conscious refusal.

Admittedly, it is difficult to understand how one can withstand causal determination. How can one defy laws of matter and life? Our reply is (i) that insofar as man is a physical and living thing he is strictly subject to these laws, but (ii) that he is more than this and insofar as he is more he is above causal determination. Having a living body with a mechanical mind, every man, qua bodily and mechanically mental, is subject to the laws of matter and life. Thus far he is like any animal of lower origin and there is no question of resisting causal determination. But man claims and feels that he is more; it is precisely here that his distinctive humanity lies. This something more is his self-conscious freedom.⁵ Initially it was evident in a negative form as non-attachment. Positively and at a more reflective level it is manifest as a drive toward something opposed to Nature or as just a drive in the opposite direction, in which case its negativity and positivity may be said to alternate.

Non-attachment--better, detachment--is not a 'natural' phenomenon which could be treated successfully in empirical psychology. It is not to be classed with other mechanical mental behaviors as though, while not yet accounted for on a naturalistic line, it is yet believed to be manageable in that manner. Rather, it constitutes the limit of all naturalistic treatment, a gap in the mechanistic account of mind, much as are individual idiosyncrasies in etiology. Individual idiosyncrasies can no doubt be managed to an extent by statistical computation, but subtler idiosyncrasies crop up afresh every time. Similarly here, however much and in whatever line a mechanistic account is sought for this detachment, e.g., as being statistically correlated to such and such circumstances or within such and such limits, fresh detachment appears every time at the frontier.

One becomes fully conscious of this detachment only when it has the substantial strength to resist a considerable quantum of natural pressure. Short of that it also enters one's consciousness, however imperfectly, though in speaking it one may exaggerate. Such exaggeration is so common that mechanical mental behavior which happened only as a natural effect tends to be spoken of in terms of 'I did it', as though even here the 'I' is standing detached. In such cases the 'I did' is clearly a misstatement of the actual state of affairs and due entirely to the simple and of itself innocuous fact that an unreflective I-feeling accompanies every psychic behavior mechanically mental or otherwise. In fact, nothing could be psychic⁶ if it were not accompanied by some I-consciousness; what accompanies the mechanical mental is only a simple I-feeling. Detachment proper begins at a higher level, though it may have its own sub-levels of clarity. To the lowest of such sub-levels belong actions which involve choice from among different causes or motives, instinctive choice being the lowest. To another, much higher up, belongs the choice not to submit to any such cause. When one chooses among different motives all but the chosen one must have been resisted. This resistance to one motive, followed by submission to another, could be detected through retrospection by the agent himself. At higher levels, however, one is fully conscious of resistance, that is, detachment from the beginning, and not only in retrospect.

To be once in conscious possession of detachment, however, does not mean that there will be no relapse or subsequent animal-like submission to Nature. People do often relapse in that way, but often, too, in the spirit of detachment they reason to the motive or pressure to which they appear to submit. This enables them to act freely upon the motive. It often happens, of

course, that the whole reasoning is but a post facto rationalization of what has really been a case of blatant submission. The minimum that freedom requires is non-submission that is detachment.

To continue in detachment does not mean that one has ceased to act. Detachment is only the negative aspect of freedom, which is exercised positively in three ways. First, in full consciousness one may tend toward a trans-natural ideal which, as distinguished from the natural mental, may be called 'spiritual'. Secondly, it may be that the whole thing is just the sheer drive and not directed toward any definite ideal. This is a sort of dallying with negation itself; it is a perpetual, though contentless, spiritual life. Thirdly, with full consciousness of detachment one may yet return to Nature, this time not to submit to it in the least, but to lord it over,⁷ or act up to it. More on these three positive forms later.

Detachment, we have said above, is the negative aspect of freedom that is trans-natural. Strictly speaking, it is much less than that. It is just negation, a vacuum pure and simple, a hole in Nature itself; it is a negation that is still 'natural'. As such, naturalistic psychology may treat it as a subject-matter in its own domain of inquiry, though it must treat it throughout as negation. The moment, one understands it as something positive it has passed out of Nature. The erstwhile 'natural' negation is then found face to face with trans-natural freedom which for so long had been peering through the 'hole'. Detachment is really the point where Nature and the trans-natural meet. Naturalistic psychology has gone on describing and even accounting for the subtleties of this detachment, believing all the while that it is tackling 'freedom' What it has really done is either to confuse at every step the natural with the trans-natural or to describe and explain different folds of a type of negation, the type being determined by its place vis-a-vis the other positive 'naturals' with which it has been dealing.

Infra-atomic Behaviors Indeterminate and Yet Natural

In the last two sections we have examined two kinds of behaviors, those of living creatures qua living and of man qua man. We have shown that the former, though apparently indeterminate, are not really so; they are, therefore, 'natural'. In contrast, the other kind of behaviors, those viz. of man qua man and which alone have the right to be called 'act' are free in the sense of being intrinsically capable of opposing Nature. They are, therefore, outside Nature; though as we have seen, they may yet operate as within that very Nature, freely acting up to it or even dominating it.

Distinct from both these kinds of behavior are those in the infra-atomic world which are indeterminate and yet physical through and through, in their case there being no question of life, consciousness or self-consciousness. Infra-atomic indeterminacy is neither freedom nor organic-mental.

As such there could be only three alternative ways of tackling it.

a. The indeterminacy in question may be understood as only apparent, provisional or privative. We may go on seeking the missing factor that could make it determinate under the over-all idea that all that is 'natural' is determinate.

b. The second way would be to hold that the behaviors of infra-atomic particles are, in the last analysis, really indeterminate. This would be based, not only on the fact that micro-physicists have failed to find determinacy here in spite of their best efforts, but also on a logical impossibility, viz., in this field the measurer inevitably becomes entangled in the measurement. As these infra-atomic particles, with all they involve in this field, constitute the basic reality of Nature, we have to hold further that all macro behaviors must be interpreted in their terms, that

is, in the language of the Quantum Theory as average behaviors of masses of those particles. Or, if the particles themselves are reduced to indeterminate behaviors, our procedure would be to take the macro behaviors as average masses of the basic indeterminate behaviors. Whichever way we proceed, the whole idea is that as infra-atomic behaviors alone are genuine and original, all determinate macro behaviors have, at least at the first step of deduction, to be derived from them through calculations of probability. Once, however, the first-level macro behaviors are so derived, the more gross behaviors may be calculated from them through ordinary classical mathematics.

c. The third alternative would be to proceed in just the opposite manner, taking macro determinacy as ontologically basic and understanding micro indeterminacy somehow in its terms, except that it be not understood only as privation.

Of these three alternatives the first can be discounted immediately. Not only has no missing factor that could supply determinacy yet been found, we are told that it cannot be found as that would involve the logical impossibility spoken of above, viz., the measurer becomes entangled in measurement.

The second alternative is indeed the order of the day. But there is a snag. Infra-atomic indeterminacy could be taken as original and absolute if only it were of the same nature as the freedom we find in human action. Only then could we start from it and understand other behaviors in its terms. We have already seen, however, that this is not so. It could also be an original starting point if, as is the current view of many scientists, the subject matter of theoretical physics were not the actual world we live in but only the concept 'world' which is said to be all mathematics while the solid items of our world are only terminal symbols as it were. As long, however, as we are talking of our actual concrete world we must discount the possibility of starting from any physical indeterminacy and deriving the concrete world through any manner of calculation. Over-intellectualistic science, concerned solely with abstract models and logical calculation, misses all experimental touch with the concrete world. Presupposing experience, it neither faces it squarely nor explores the delicate empirical relations. Naively content with broad accepted empirical features, it boasts of the empirical success of its models and calculations, not knowing that Nature responds only when their feats are congenial. When Nature flouts them they turn to other models and calculations, treating her all the while as a slave rather than as a cooperating friend. This is why in logic there is so much difficulty and confusion regarding induction. The entire Nature could be formally modeled if only the model contained 'holes', corresponding to perception and induction, through which solid, concrete Nature could at least peer. The logic of probability is only a step in that line, but it is grossly inadequate because all the types of 'holes' have not been taken into account.

Thus, we are left with the third alternative stated above, viz., to take macro determinacy as the exemplar and understand micro indeterminacy in its language. If permissible, it would be treated as lacking determination till now. Failing that, it would be treated as a merely logical presupposition, seeing that, although presupposed, it cannot be spoken of except as presupposed and therefore as manageable by itself. In this it differs from ontological presuppositions which, though epistemologically presupposed, need not be spoken of as presupposed. Infra-atomic indeterminacy is, therefore, not ontologically original; it is no distinctive being from which determinacy could be entirely derived. It recalls a similar problem in contemporary philosophy, viz., that of the subsistent vs. the existent. If subsistents must be presupposed for an existent, this is only an epistemological necessity, which in no way implies that the subsistent is an ontological prius. The subsistent cannot be defined except as what is presupposed in such and such manner

by the existent, and the manner, too, is understood to obtain in the existent world. It is the same with micro-indeterminism vs. macrodeterminism.

Nature as Spatial-temporal and Causally Determined

Thus far, we have been considering causal determination as a necessary mark of Nature. As for its spatial and temporal character, this has never been seriously challenged except in seeking clarification of the notions of space and time involved. Sometimes the common sense notions of space and time have been replaced by those which, we are told, are scientific. That is, the replacement is in the interest of theoretical physics, which has been constituted as the paradigm of science and which, as already said, has sought to replace our actual world by the concept 'world' of mathematics. With that world, however, we are not concerned. Hence, our definition of Nature as the totality of contents that are in space and/or time and are causally determined stands. When empiricists insist that the real must be empirical, that is, perceivable or observable, what they mean is that the real must be 'natural', that it must not go beyond Nature. In effect, then, they define 'natural' as what is perceivable. If by that they mean that the natural is that which is, was or will be perceived psychologically, this would be an obviously inadequate definition. Science with its sole concern for Nature speaks of many things which are psychologically unperceivable, and modern empiricists are conscious of that. They understand by 'perceivable' what can be logically worked out of perceived data; Nature, according to them, consists as much of such logical constructions as of the perceived data.

Our definition of Nature as spatial-temporal and causally determined does not differ from this. It states the same thing but attempts to clarify the language, for all logical passage from given perceptual data is possible only through space, time and causal determination, in whatever language these three are understood. We add that the logical character of the perceptual data, too, is that they are in space and/or time and causally determined. Further, abstract logico-mathematical determination (derivability) is not as divorced from these three as is commonly supposed. All depends on how the three are sought to be understood: whether as they obtain in our concrete actual world or as they are conceptualized in the interest of the concept 'world'. Even in the latter case it depends on how the concept is formed: whether as empirically abstracted from the concrete actual world or as a pre-constructed model with which to tackle the actual world. We have deliberately kept out of account all talks of preconstructed models as we are not quite sure of their locus standi.

There is still another point before passing to the next section. Are chance phenomena to be included in Nature or not? All depends on whether they contradict, that is, resist determination or not. As a matter of procedure, they are not taken as contradicting determination and normally an attempt is made to explain every chance phenomenon in terms of causal determination. It is only when such explanation fails, in spite of all honest attempt, that we leave it as being thus far intractable.

Neither of the contingencies met with in human freedom and infra-atomic indeterminacy obtains. If nevertheless we tackle it with the logic of probability, this is because that is the only logic at our disposal for making anything out of chance phenomena. The logic of probability can be used in treating any phenomenon, determined or chanced, but that does not make it the only indispensable logic for all cases. It is doubtful, too, that this logic is sui generis, entirely independent, even at its base, on the normal logic of complete determination.

FREEDOM OF MAN

Every Man's Own Nature

Three quarters of man's being is immersed in Nature and is thus far subject to causal determination. He has a physical body which, apart from life, is a dead mass or matter, of which every piece, like the total mass, behaves in the same manner as any piece of matter. This is abundantly evident when a man dies and his body is left behind, cold and lifeless. As long, however, as he is living, this mass, without contradicting the way in which it would behave in a dead physical condition, behaves overwhelmingly as a living body. None of the purely physical movements and tendencies are suppressed, but the entire physical body is now in a wider field of activity and purely physical tendencies are newly oriented. Parts of the dead mass or body, when left to themselves, behave in relation to one another and to outside matter exactly as does any piece of dead matter. As belonging to the body, however, they behave additionally in a new way, which movements are called living. There is no paradox here. In the purely physical field, too, molecular and translatory movements are distinguished.

Further, there is no life without some form of consciousness. This is evident in the behaviors of most of the common species of living beings. If there be any doubt regarding the lowest levels of life, neither is there any assurance that they do not have consciousness. All animal behaviors, including those of man, can indeed be interpreted in purely physiological, or even in simply physical, terms. This is not so of freedom recognized as freedom, and it may well be that this is excluded because it is eminently conscious. Nevertheless, quite many of the lower forms of behavior, too, are conscious, though not eminently so. At least many of our human behaviors which are not free are conscious to some degree, and, sophisticated though we are, we commonly believe that higher animals, too, are conscious of many of their behaviors. Furthermore, untutored common sense takes all living behaviors as conscious in that way. Hence, there is no logical impossibility for all living behaviors to be conscious, howsoever imperfect may be that consciousness.

It is true that if all living behaviors, except of course those which are free, could be interpreted in purely physiological or physical terms, logical parsimony would require that they should not be taken as conscious. But the law of parsimony, one must not forget, is valid only where one is concerned with a theory, not with what are given as facts. In our present case, however, it is given to untutored common sense that all living behaviors are conscious. Whatever is thus given and not contradicted by reason must be accepted, for that is precisely what is meant by 'datum'.

That all living behaviors of man and lower species are conscious does not, however, mean that they are held as objects by some non-objective consciousness which man and these species possess or that they are consciously generated as in voluntary action. That happens only when consciousness is explicit. All that we claim here is that some form of consciousness accompanies these behaviors, which consciousness is of different degrees of explicitness in the various types of living behaviors.

Only when consciousness has the form of freedom does it show itself explicitly, only then is it felt as something other than those living behaviors. In all other cases it merely accompanies them without distinguishing itself; it accompanies them so closely, indeed, that the behaviors themselves appear to be conscious. This feeling, too, one must remember, is never⁸ different

from the consciousness that is said to be felt. There is no consciousness that does not feel itself, and if consciousness is of different degrees of explicitness, so, too, is the feeling.

If then every life-behavior is conscious, there is no great ontological difference between what is called living body and mind, provided by 'mind' is meant a unitary system of mechanical or causally determined mental, i.e., conscious, behaviors. Every such mental behavior is also a bodily⁹ behavior; and the more refined the mental behavior, such as thought, imagination and will, the more hidden from view is the corresponding bodily one. The bodily behavior should not be taken as a cause of the mental, nor vice versa, for ontologically they are one and the same and differ only inasmuch as they are considered from two different points of view. There is some slight additional difference: while every mental behavior is determined by some antecedent mental behavior in the same mind,¹⁰ a bodily behavior is determined as much by antecedent bodily behavior in the same body as in another body.

As they involve increasingly subtle bodily behaviors mental behaviors are higher in the scale of refinement. At the lowest level there are the organic sensations, always with somatic overtones. In appropriate orders of refinement are the more specific sensations, the higher probably involving unexplicit remainders, the unconscious dispositions and traces of the lower, both bodily and mental. Why they are progressively more specific probably depends upon the life-needs of the translatory movements of the body, including the corresponding mental movements. Mental behaviors above the level of sensation depend successively more upon the unexplicit remainders or 'traces', the most unexplicit of which are being required for those mental behaviors said to depend upon thought.

Though 'said to depend upon thought', they do not in fact so depend. When, for example, perception, as distinguished from sensation, is said to depend on thought, definitely no thought is operative there in the way in which it operates at the level of thinking. It is only said to operate there, because at that level perception somehow involves the subtle dispositions and traces which at the higher level make thinking possible. These dispositions and traces are required in two different ways at the two levels. At the level of perception they get entangled, tied or fused with given matters, which they refuse to do at the level of thinking. Dispositions and traces maturing into thinking take up matters softly, tackling them from outside as it were, whereas in perception they mature only so far as they impregnate sense-matters.

Assuming that they are active, dispositions and traces, understood as mental, are those behaviors of which we have not even the type of feeling we have of the lowest bodily-mental movements spoken of above, though we cannot say we have no feeling at all of them. With a little practice many can be felt indistinctly as forces welling up from within, though never as what they might actually be or how they might behave. Even some of the dispositions and traces which lie more deeply hidden in our mind can be felt through greater practice, though only vicariously and indistinctly, as when we somehow feel that the forms in which they are trying to emerge in consciousness are false and yet not wholly cut off. If one can delve so deeply into the so-called unconscious, we can well imagine that with continued practice we could go still deeper.

The mental behaviors we have described so far are all mechanical that is, causally determined. They range from organic sensations at the lowest, through more or less distinctly felt traces, to mechanical thought at the highest, with each type possessing distinctive affective tones distributed along a similar line. Thus far, we have been treating the cognitive side of the mind. Correspondingly, there are conative behaviors, all mechanical at the level of mind and distributed in the same order, each with an appropriate affective tone. So far as the mechanical mind is concerned, its affective side is always an overtone and never substantive. The whole

picture will alter, however, in the next section, when this entire mental region, along with its corresponding system of bodily behaviors, is looked at from the point of view of freedom.

The body of each man, as a unitary system of all his lifebehaviors, along with his mechanical mind constitute his 'own nature'; henceforward, this will be called human nature (with a small 'n'). This is the field reserved for him not only in which to live but also through which to communicate with the world outside and its other similar natures. The communication is twofold, both receiving and communicating. Through his own nature he collects information about Nature--through body alone when the information is relatively simple and also through mind when it is complicated. Equally, he reacts on Nature, changing and rearranging it according to ideas that develop in the mind, this change or rearrangement of Nature and the growth of ideas being mechanical till now. Since we have already said that his mechanical mind and his so-called physical body are basically one and the same thing, viz., his living body, we can say now that his nature is this living body understood to be as much mechanically mental as physical. This living body is the medium or means through which he is in twofold correspondence with Nature.

The living body is not only the medium for all mechanical knowledge of Nature and mechanical reaction on it, it is equally so for all knowledge and action in as much as it is free. Free knowledge of Nature is knowing it as it truly is; free action modifies it in the light of that knowledge. Indeed, the living body, including mechanical mind, is in a way more important for freedom than for any mechanical behavior, whether cognitive or conative. While every creature as instinctively uses its body as a means for communicating with Nature as it uses anything, for his free knowledge and action man uses his body not only consciously but with an awareness that it alone is the primary means. Insofar as he uses it self-consciously he can study and manipulate it, both for its own sake and as a means for its assessment and improvement. Free man, in other words, is directly concerned with his body; his freedom finds scope primarily and chiefly in his body, which is his own nature, and only through this in outside Nature.

Thus, for free man the body that is consciously used as a means is no mere part of Nature. To effect any change in outside Nature he has first to introduce an appropriate change or new movement in this body which is his own nature. Obviously, that movement is not entirely Nature's own; at some point it has originated freely and literally out of nothing, and insofar seems to have violated Nature's law. If he had no body, no such question of violation would arise. Yet from another point of view, with all his body and freedom he cannot alter the laws of Nature; being in the world, he has to move according to these laws of matter and motion. How could he then perform that impossible feat of originating new movement? The reply lies in the exact relation of man's own nature to Nature.

His own nature or body-mind complex is no mere part of Nature; itself a microcosm, a tiny duplicate of the entire Nature, it constitutes a whole world of its own, a Leibnitzian monad. Viewed that way, it is not a part of Nature, for no part can possibly represent the whole; it is a full empire for each man, with all the offices and rules of management that are found in Nature. In another way, too, it is a part of that Nature. Varying the Leibnitzian conception to suit our purpose, we may liken individual men's own natures to States that form a healthy federation, and that federation itself to Nature as a whole. From the point of view of strictly determined mechanical Nature each man's own nature, equally determined in every detail, is only one part among others; only as a matter of accident is it attached to a particular man. From another point of view, however, viz., insofar as he is a free man, each man's nature is his. It is what he has earned, as it were, or carved out of Nature in order that it may be managed by him, though with all the help he can get from that Nature. It is what he has taken over from Nature in order that it

may be brought in line with his genuine freedom, bettered and perfected. There lurks, indeed, a possibility always that he may succumb, as unfortunately he often does, to Nature's determination and thus turn his possession into an animal's den. Still worse, retaining some shadow of freedom and consciously utilizing it, he may turn his empire into a veritable hell. This is a possibility he faces.

Different Functions of Freedom

We have shown in the previous section that three quarters of man's being are immersed in Nature and how, in this way, he behaves like any animal. The remaining fourth quarter is his freedom. It is a 'quarter' only from the point of view of Nature; in itself, it constitutes an expansive field capable of engulfing the whole of Nature. It can do this either by seeking to rearrange the details of Nature in order that freedom might prevail or, not satisfied with mechanical acquiescence, by trying to understand Nature through questions, challenges and experiments, filtering through reason what Nature offers mechanically. Reason, as will presently be shown, is a function of freedom.

Ordinarily, we talk of freedom only in the context of conation; we commonly hold it to be freedom of will. Once it is remembered, however, that freedom is primarily what resists natural determination there is no reason why it should not also be cognitive and, in an important sense to be clarified later, affective, as we find in art and religious love and devotion.

The type of freedom we discussed in the section The notion of freedom was freedom of will. There we showed that a large part of our conative life is in the field of Nature and determined through and through; nearly the whole of conations which are usually called free can be shown to be determined by factors that could not be detected by the person concerned. Nevertheless, we have insisted that actions which are distinctively human always involve choice, which must start with some form of detachment. Detachment, in its turn, is a form of resistance to Nature, incipient or pronounced. This detachment is at the root of all morality: an action is primarily moral precisely insofar as it resists some 'natural' motive, personal or even social. Among 'natural' behaviors some may be better than others, and the 'natural' principle which determines this comparative goodness may legitimately be called Good. Morality, however, is something different from Good; something other than 'natural' Good in our active, individual or social life is valued equally, if not more. That 'something other' is detachment, conscious disinterestedness, utter unselfishness.

So far, however, we have characterized morality only negatively and, though some mystics value this negation more than anything else,¹ there is also a positive side. In the section on The notion of freedom we saw that the positive aspect can be understood in two ways. It can be understood as a trans-natural progressive movement upward for an increasingly close communion with some distant ideal. Alternatively, it can be seen as a movement downward to the world of Nature, with full conscious detachment or unselfishness manipulating things proximately in the interest of all individuals, among whom the agent is but one, but ultimately in the interest of reason.

Reason is not exclusively a cognitive affair. Primarily it is the principle of objectivity; when any mental affair is brought to that level of consciousness and molded according to its requirements it is acceptable to all individual persons, provided they also exercise reason to some extent. Though each mental behavior is private to the individual to whom it belongs, when it is brought to the level of reason, i.e., rationalized, it becomes acceptable or at least communicable

to others. Thus rationalized it is no less, and perhaps more, communicable than perception. Communication is possible only at the two extreme levels of mentality. At the lowest level, perception is immediately communicable because the object perceived as over there is a common thing for all who perceive it. Higher mental behaviors become increasingly private. They, too, get communicated, however, when brought to the highest level where reason supervenes and takes them up. Such objectification is possible because reason is a common property of all minds.¹² Even perceptions could be communicated in that way, in which case, however, rational communication would be only a clarification or secondhand confirmation of the direct communicability or objectivity it possessed.

Though reason is a common property of all minds, this does not mean that all minds possess similar reasons, for that would make mental behaviors incommunicable. They would be similar without anyone knowing that they are so and, therefore, would remain as private as before. Communication, and thereby objectification, is impossible without some identity of contents. Perception, for example, can be communicated only because there is outside an identical object to which all the percipients might refer. Rationalization, too, can be understood as referring to a perceivable object. The distance is so great, however, that the object, being almost on the vanishing point, is of no tangible use. Reason, on the other hand, has its own method of communication by means of which it objectifies in an altogether different manner which is normally called 'logic', but in special cases may be logic's cousins. The object of this objectification is not only nonperceptual experience but, if need be, perceptions also. Here, the objectification of an experience means asserting its content as real.¹³ Dressed in reason any mental process can be communicated in this new fashion. In this case, the identity required by communication is the identity of reason itself, for there can be no perceivable object here and all mental affairs are private.

Is not reason itself, however, a mental affair and as such private? It is, but it is distinguished from other mental affairs by being at the upper limit of mentality and hence, quite novel. A similar situation obtains at the lower limit, for both limits are meeting places of the mental with an identity outside mind. At the lower limit the outside identity is the object, called 'percept', every percept being as much mental perception as it is content outside mind. At the upper limit it is reason that transcends mind. This outside reason is the identity different from the similarity of different reasons of different minds. Whether this identical reason has to be grasped or realized as being outside mind is another question,¹⁴ quite as much as is whether the percept has to be grasped as outside perception or as the thing which is said to be perceived.

This outside identical reason is not necessarily logic. It is logic only insofar as mental behaviors are cognitive, seeking to present the world as it truly is. So long, on the other hand, as mental behaviors are conative, i.e., concerned with what we do, this outside reason, which shall henceforth be called Reason, tells us what we ought to do. This cannot be established by logic, which tells us only what is truly there, though this is not entirely independent of the ought-to-do, nor vice versa. Ought-to-do is primarily a conative realization of Reason or a bringing into being in the world of Nature of what I am as above the level of mind, that is, as above individuality. It is the bringing into being on the level of Nature of the identical I, super-ego or essential spirit, which is equally present in all individual minds though not equally sensed by all as that which must be so brought into being. In a way, then, even at this primary stage there is some dependence on the cognition of what I truly am. This cognition is not yet cognitive possession, however, but only a sort of sensing what I truly am from a distance. Over and above this initial dependence of morality on cognition, there is a different and more solid dependence. What I

sense I truly am seeks to be made real in the midst of concrete natural situations and to be given concrete shapes commensurate with those situations. This requires that the situations be correctly, i.e., rationally, cognized. Though in a different way, cognitive reason, too, must depend on conative reason which is morality, for to know anything properly we must cleanse our mind of all egocentricity and this is a moral act.

Exactly how what I truly am is freely realized or concretized step by step into shapes commensurate with different orders of `natural' situations--the so-called logic of morality--has not often been studied systematically. The process is similar to that in the cognitive field. Different stages of moral concretization are likely to correspond to cognitive stages, from transnatural cum mental reason, through different forms of traces and dispositions, to imagination, memory, immediate awareness of absence, perception and serially to different forms of sensation down to the organic. Normally, of course, the study of cognition, as of conation, must begin, not from the top, but from the lowest which is readily at hand. Slowly, the study moves upward and uncovers regarding each higher stage both the way in which its activity is involved in the lower and how it behaves as uninvolved. Even there, though, once we detect the trans-natural Reason as freedom-in-itself and grasp it with any degree of conviction, we can begin anew from the top and see how it operates freely at and through the lower stages.

Nonetheless, it must be recognized that we are faced with an almost insoluble problem, whether we begin from the lowest in terms of the unfolding of freedom or from the highest in terms of the stages of free self-concretizations. In either case, we have not shown whether or how the natural mental and bodily behaviors as such come out of that freedom. Nor have we shown whether man's own nature stands there in its own right, faced only by freedom which, as negative resists it, and as positive in the present cases is concretized, through stages, into forms which look very much like those natural contents. In any case, such concretization after resistance is not a form of succumbing, which would result rather in private behaviors centering round individual egos. The concretization in question, quite as much as the parallel cognitive movement, consists rather in freely constructing behaviors through the use of those traces which were responsible for `natural' behaviors, thus making the constructed behaviors look quite `natural' though actually they are not so.

Whether and how far this account is tenable depends on two considerations: first, whether and how far freedom, once grasped, can succumb to traces, seeing that once freedom is attained the `natural' individual and, therefore, the traces he carries have ceased to exist; and second, whether and how far there could be any such traces for freedom to fall upon and become bound to, seeing that a child is not born with such traces.

One possible reply to the first consideration is that since the freedom in question is grasped by one who is still alive his mechanical mind and body, and therefore the traces also, continue to exist as actively as before. This reply is not satisfactory because one cannot grasp freedom till these traces are rendered inactive. True, they are not rendered inactive all at once: the grasp of freedom and the inactivization of traces progress together. Still this implies that with the complete grasp of freedom there is no question of return to Nature. All depends, however, on what is meant by `return' here: it is impossible to succumb once again to Nature, but what prevents a free return?

A similar imperfect solution has sometimes been offered for the second consideration above. It has been said that every child is born with traces accumulated in his previous life. But if this is understood as an empirical, naturalistic account, it is highly controversial. It is not that the two replies are altogether nonsense,¹⁵ but that they do not solve the problem raised. They are

naturalistic attempts to solve problems which cannot be solved naturalistically, for the relation between Nature and freedom is trans-natural.

From this point of view, modern phenomenologists fare better. They hold that freedom in its negative aspect is conscious resistance to or withdrawal from Nature, and in the process consciously getting installed in or recovering itself. They call this 'bracketing Nature'. At the same time they hold that in its downward--or in their language 'forward'--movement it "intends" that Nature progressively or, as withdrawing, regressively--through all its a priori strands. The two processes, negative withdrawal¹⁶ and positive intention, are in effect one and the same, constituting two moments of one and the same process: insofar as X is withdrawn from, it is "intended" phenomenologically. This is exactly what we have meant by 'free construction'. Phenomenologists hold in effect that man constructs the pure strands of his own nature freely and, through them, of Nature outside.

Even this phenomenological account is inadequate, however, for it fails to explain how freedom could construct all the perceivable details either of one's own nature or of Nature outside. Nature, whether with small 'n' or capital 'N', cannot be constructed in such full detail except through free construction out of itself of traces. This would be possible only if one could consciously withdraw even from traces, and this could be done only if, even in 'natural' life, one could be conscious of such traces. In section one above, we have shown how that could be done: whatever is consciously apprehended can be consciously withdrawn from, and whatever can be consciously withdrawn from can be freely constructed.

Reason and Norms

Up to now, we have treated reason as the only tangible form of freedom, as much in the practical as in the theoretical field. Reason is freedom because, in both fields, it enables us to detach ourselves from various 'natural' pressures whether of physical nature and physiological needs, of instincts, emotions and passions and even of mechanical social norms. These factors, which normally are 'natural' determinants, grow into pressure as soon as they act upon the living body, including mind, that is, the mind-body complex. In so acting they, in effect, cater to the 'natural' needs of the individual ego by way of desire and aversion or, in the theoretical field, by way of mistaking belief for knowledge. In both the theoretical and the practical fields, Reason frees man from these 'natural' needs.

In the theoretical field physical and physiological pressures are epitomized in the claim of perception to be the only reliable avenue of knowledge. Theoretical reason frees us of this claim; by doubting and questioning perception it prohibits one from accepting the perceptual verdict until it is rationalized. There is no question of rejecting perception wholesale for, after all, we are creatures of Nature. Perception must be accepted to the extent that it is tested by reason and rejected to the extent that it is distorted by the blind use of freedom, viz., through its unconscious identification with egoistic instincts, emotions and passions. Of themselves, instincts, emotions and passions are not unholy; they are made so by our egoistic attachment to them quite as much as to other things of Nature. There is, however, this difference: our attachment to these through our own natures generates 'traces' which facilitate further involvement, and so on increasingly.

Similarly in the field of conation reason aims to free us from 'natural' pressures of various kinds. Instinctive and other biologically needed actions are not taken as final but are questioned and tested by reason, as are actions prompted by various emotions, passions and desires. As in the theoretical field, none of these 'natural' forces are intrinsically unholy, but are made so

through our egoistic attachment to them. Often, too, this attachment and the 'traces' generated therefrom work in a vicious circle continually to strengthen each other until reason supervenes.

In both the theoretical and practical fields, Nature is to be accepted only insofar as it stands the test of reason. In the theoretical field this testing is by logical principles, while in the practical field it is by another set of principles appropriate to that field; in both, however, the fundamental principle is the same: detachment from the ego. This entails a sort of universalization, translating 'natural' pressures, through one's freedom, into forms that are acceptable to all. As in the theoretical field the universalized forms are progressively concrete theorems as they concern increasingly concrete situations, so in the practical field they are progressively more concrete social norms.

Social norms themselves very often constitute a kind of pressure, but only when one tends toward succumbing to them as to pressures from outside. This happens even in the case of logical principles and theorems when, for example, a child learns mathematics or in cases where the common person is overawed by Science. Social norms, like different theorems, are to be understood as developing through conscious rationalization of our behaviors in different sets of contexts. Conscious rationalization, we have seen, is trans-natural Reason operating appropriately in different, and increasingly concrete contexts. Such rationalization is effected by wise men in the societies concerned; this seems to happen unconsciously because of habits formed by those wise men or even by people at large. A wholly naturalistic account of social norms or of logical principles and theorems is not feasible here.¹⁷

In this light, neither logical nor social norms are pressures of any sort, except insofar as, not having been traced to their rational origin, they are taken merely as impositions. Initially, indeed, they often are imposed, but those which are accepted gladly or as right are those which are those which are traceable or believed to be traceable to Reason.

The above has been said from the phenomenological point of view. There is another attitude, however, in which norms that are consciously understood as coming from outside may yet be gladly accepted and even submitted to. Norms of conduct and exegesis laid down in orthodox religions are accepted in this way by many in faith. Faith is here the saving feature which softens the aggression of norms by generating genuine respect for them and for their promulgators. Faith here is a good enough substitute for the phenomenological experience of freedom, i.e., reason, in that it is as much distant from mechanical pressure as that experience and yet is human throughout. This aspect will not be treated here.

What we have tried to show in this section is that, in our concrete life in the midst of Nature, Reason that is freedom realizes itself in behaving according to norms and that the norms themselves are traceable to it. Reason as such is trans-natural, howsoever it operates as and through progressively concrete norms. Although the norms themselves have always to be rationalized, this is not required of Reason. It stands self-validated; logical principles need not be derived logically. The minimum that is needed everywhere, and what in effect constitutes the very life of rationalization, is the elimination of egocentricity, of which another name is communicability. This is why even in perception it is immediately accepted without any rational test so long as I am sure that it has been vitiated by no personal equation. Even where I find that what I am now perceiving, whether or not I have cleansed my mind of unholy egocentricity, is being perceived by others present exactly as I am perceiving it, no rationalization is required, it being presupposed that we are sure that nothing of physical Nature has unauthorizedly intervened. Any demand for rationalization would appear forced in both cases, especially if this

were a mystic experience which one might have at times in all clear conscience and with full knowledge that there is no vitiating factor.

The same thing is true of conation. Where a norm according to which I act is accepted unquestioningly by all in my society, there is no need rationally to justify it, unless, of course, the entire social structure is questioned by some other competing or wider social structure. Equally unchallenged by reason should be whatever my 'clean conscience' dictates, especially the rare mystic ordinances that one's 'holy' mind receives.

What we have said so far on freedom and norms in theoretical and practical fields is true *mutatis mutandis* of freedom and norms in the aesthetic field and its religious equivalent, viz., the field of faith, love and devotion.

Freedom and Nature Once Again

The entire mental life, beginning with sensuous perception and rising to mechanical thought, belongs to Nature and constitutes one's own nature. Each stage, as we have seen, can also be consciously experienced in the phenomenological attitude, first as freedom intending it a priori in broad outline and then more concretely, as that freedom intending the content. This is accomplished through conscious or half-conscious manipulation of 'traces'. 'Intention' means positing something out of itself and apprehending this as posited rather than as already there in its own right, though not denying also that they somehow coincide. This is what in epistemology is called 'construction', and in ethics 'making a new situation' or 're-arrangement'. All this is but another way of saying that when what is already there as 'natural' is consciously apprehended from within oneself, this consciousness is produced neither by it nor is it mere consciousness, rather it is a forward-looking and self-generated mode of that consciousness itself, in which the mode is not altogether divorced from the 'natural' content. If the mode were as natural as that content, even if of a new order, the two would have to be taken in an angelic attitude as entitatively different and yet coinciding.

Since consciousness¹⁸ and its modes, are had, not as 'natural', but as free, there are two self-sufficient alternatives. We could proceed in the way of free consciousness and understand everything of the so-called Nature as its free mode. We could equally proceed as absolute naturalists and understand both consciousness itself and its modes as 'natural', even if of a special type. The difficulty with this form of naturalism, however, is that at some point one must recognize an ambivalent character moving in Nature without being one of its permanent citizens. Consciousness which doubts, questions, rearranges and rationalizes Nature is as much a part of Nature as one which views it as a whole and seeks to manage it from that total point of view. This strange character, which moves in Nature but must be recognized as free, has been dealt with in previous sections only in the form called reason. It has other forms as well. It includes whatever is phenomenologically capable of dissociating itself from the 'natural' or, where it remains in Nature, freely intends the content it withdraws from as a form of freedom. In that manner, all reflective consciousness, which is the prerogative of man, is free.

This means that, much like thought, it is possible to turn into free phenomenological processes moral will, aesthesia, faith, religious love and devotion, and even lower forms of mentalities down to perception, whether in the cognitive, conative, aesthetic or religious dimension. As the phenomenological prius of all that is Nature, Freedom is not Reason only; Reason is merely the form of freedom that corresponds to thought or reason, though it may have jurisdiction over a large number of mental behaviors. Freedom as reflection, that is, as pure

consciousness, which is self-evident and self-certifying corresponds to, and comprehends, every form of mental behavior. To a naturalist studying Nature, including his own nature, this Freedom is only 'shown', for in that type of study an examination of Freedom is not only not an obligation but an impossibility. One may choose, however, to be a phenomenologist and then would study this Freedom through all its modes and nuances.

Whether there could or could not be a general Freedom common to different forms of freedom is not a difficult problem for the phenomenologist. Phenomenologically, every man is conscious that he is a unity as his naturalistic behaviors also 'show'. This is the so-called unitary Freedom which, in its experienced unity, ramifies into different forms, modes, nuances, etc. If this sounds mythical, one must not forget that the complete picture is discovered through systematic regressive detachment, every step of which exhibits in abundant light the corresponding 'intention'.

No phenomenological experience is possible at any step unless one has learned to detach himself from the form of bondage of his egocentric nature peculiar to that stage. We have seen that at the highest stage of nature, viz., at that of reason,¹⁹ the phenomenologist must detach himself from the last form of aggressive ego, that is, he must see that what he knows or does²⁰ is not for himself alone but for everyone who has the eyes to see.

At this point, however, there is no total denial of ego; what is denied is the aggressive ego that speaks only for itself, or at most for those who hang onto it. At this stage Freedom consists in being impartial to everyone including oneself. We have just seen that Freedom which refuses to be bound to nature is experienced as a unity. Two factors explain this: First, when the last stage of nature has been transcended and the ego has ceased to be aggressive, the unity of Freedom obviously cannot be that of the aggressive ego; second, because at this stage it concerns all possible ego its unity must be that of all egos. Here, as with the transcended aggressive ego, these other souls are no longer aggressively individual. The grand unity to which Freedom is ultimately to belong must, therefore, be the unity of all trans-natural pure souls. In other words, it ultimately belongs to a Grand Soul which is related to the individual pure souls in the same way that any unity stands related to its elements.

In its original status, Freedom is said to be outside Nature. This transcendence of nature must be properly understood. It is not spatial or temporal because Nature comprehends all space and time. 'Outside space or time' should mean simply not being in space or time. The whole of space is not in space nor is the whole of time in time. What, therefore, is not in space or time may well be in the whole of space or of time, or in both, each considered merely as a whole, for property may be predicated of a whole in two different ways: either of the whole as a whole, or of any or every element of its elements. The two ways of predication are mutually exclusive except that predication concerning any or every such element sometimes, though only nominally, appears as predication concerning the whole. Freedom, thus, may be outside the whole space and the whole time, each considered as a whole, without being outside any of their parts, even the most remote.

Further Consideration of the Relation Between Freedom and Nature

The relation between Freedom and Nature may be understood in two broad ways. In the first, Freedom wholly transcends Nature and constitutes non-spatial-temporal region which is wholly its own; it is a metaphysical region of non-spatial-temporal eternal truths. In the second, Freedom is autonomous in itself and yet operates within Nature. It is not bound by the conditions

of that Nature as are all `natural' contents, but freely views these contents as they should be, that is, in themselves and apart from distortion by individual predilections. Equally as conative freedom it rearranges them as they ought to be so that no one reaps the benefit only for himself and for his confreres.

In which of the two ways freedom should be understood can never be decided once and for all. The way in which freedom should move cannot be determined by anything else, for its movement is also free; freedom is but free movement. The two broad ways stated above are, therefore, absolute alternatives.

The first alternative is for transcending Nature, including one's own nature, altogether and living a life of pure Freedom. This would be a sort of filtered spiritual life, which need not be a mere mass of homogeneous indefinitude, bright though that may be. The mystics who claim they have lived this transcendent life often describe it as consisting of different stages of progress and exhibiting at each stage all sorts of subtleties and nuances, though some, it is true, have claimed that their experience when they transcended Nature was from the beginning a single, indivisible, self-luminous mass. In either case, that beyond which one cannot go is the Divine or the Absolute and nowhere in transcendent spiritual life is there any one-for-all cleavage between subjective experience and the object experienced as we have it in `natural' life. Some testify that there is no cleavage at all, but that the truth is found in every experience. Others hold that there is some cleavage, but that it operates in the very bosom of a unity, the unity being either of the experience itself or of the object experienced, each being alternatively an adjective of the other. Those theists who appear to insist on clear cleavage hold, at the same time, that between the experience at that stage and the object experienced there is a sort of communion qualitatively different from any in `natural' life. In all the cases, however, it is some sort of relationship of the Absolute with itself.

Let us ask now if there are similar conative moments in spiritual life? There are none if conation, as we find it in nature, can operate only through mental and bodily movements, for at this level there is neither mind nor body. Some mystics have, therefore, held that transcendent spiritual life is non-conative. Others, however, have claimed that at the spiritual level, quite as much as cognition can dispense with object which is indispensable at the level of Nature, conation, too, can dispense with bodily and mental movements which were absolutely necessary for it at the level of Nature. At the transcendent level of spirit, it is but that spirit narcissistically turning upon itself with a view to accelerating, or even decelerating as the case may be, its spiritual progress. One element of this spiritual experience supplicates another that stands ahead and represses or reorients itself insofar as it stands behind or, as the case may be, plays with the advance element and whatever remains behind in an attitude of equality.

Here, we need only add that every stage of such spiritual life, be it cognitive or conative, has a ring of joy and, in rare cases, a type of suffering which on the path of spiritual progress one may turn as a lever. This would constitute a kind of spiritual life which is love, devotion, surrender or even fear.

Thus far, we have been considering transcendent freedom; the other type of freedom is immanent, and has two broad sub-types. It is either transcendent-and-immanent or merely immanent. `Transcendent-and-immanent freedom' means that one has first experienced freedom as transcendent, wholly in itself and apart from everything that is `natural'. Then, not satisfied with sheer eternals and not finding anything wrong with Nature as such, for Nature goes wrong only as man misconstrues and misuses it, he returns to that Nature. In this case, free of all `natural' interest, he views Nature as it truly is, reorganizing it as he should, namely, according to

the principles of freedom, in order that he attain the fullness of spiritual life and others, too, are uplifted to proper vision and action. There is also another kind of transcendent-and-immanent freedom according to which spiritual experience is not first attained, followed by one's turning to Nature. Instead, freedom is realized, but only as possibly autonomous, that is, as capable of having a life of its own apart from Nature without ever actually having it so. It is similar to universals which cannot be had apart from the corresponding particulars though these latter may have to be understood as organized according to that universal. Or it is like a moral precept which never has an ontological being of its own, but is considered as that according to which our actions have to be determined or considered, in other words, as only functionally rather than entitatively autonomous. To these transcendentalists freedom is only functionally autonomous, which means that its relevance lies only in organizing Nature in accordance with itself, not in seeking a special being of its own. All the being it has is that of Nature which it reshapes. No doubt its realization is autonomous, but this is merely a function which never actually goes beyond Nature.

There is another way of understanding freedom, different from all those we have described so far and of momentous importance for man today. This is the view of freedom as wholly immanent in Nature. In no acceptable sense of the term does it transcend Nature, of which it constitutes only a new dimension. It is never apart from Nature nor has it even functional autonomy as though it were somehow superior and expected Nature to obey its orders. In status it is rather subordinate to Nature, which carries it all through the story of evolution as its own driving principle. Progressively in its ever-increasing explicitness it is shown as constituting the depth-dimension of Nature, whose main objective is to rearrange itself in such a way that, not only does this depth-dimension stand out as explicitly as possible, but it is then permitted to react on its own initiative and rearrange that very nature so as to make itself increasingly explicit. It does this with a speed never found before. The whole process is thus 'natural', and freedom at its maximum explicitness is only Nature itself at its best. With the emergence of man at the last stage of Nature's evolution, for the first time this freedom-depth stands out explicitly. Through progressive correction of Nature's aberrations--which either constitute its unaccountable dark side or which, once man emerges, are created by freedom itself experimentally going awry--this freedom as the depth-dimension of Nature asserts itself more and more distinctly and speedily. Throughout, the ideal of Nature is the establishment of the best form of human society which, itself 'natural', realizes that 'natural' freedom at its highest.

As noted above, there is nothing to determine which of these different ways of understanding freedom is right and which is wrong. Each offers a self-sufficient account of man and his status vis-a-vis Nature. Possibly there is no external criterion. Any such criterion would have to be rational, existential or pragmatic, anthropological, etc. But reason itself is a form of freedom. Hence, just as by means of reason one cannot justify reason itself, neither can one determine how freedom shows itself. Further, such criteria as rational, pragmatic and anthropological are relevant only for the study of 'natural' behaviors vis-a-vis one another. In studying the behavior of Nature as a whole, it is really a question either of assuming or not assuming a new attitude. The question is whether to continue in a naturalistic attitude, assume a new one, viz., the attitude of freedom, or somehow combine the two. The choice is final, in the sense of existential. The only further consideration is whether the particular attitude assumed accounts for all that can be accounted for. But in none of these attitudes need everything be accounted for because the choice of any one attitude has already taken as data many things which for other attitudes are problems. Data, obviously, differ from choice to choice.

NOTES

1. When a man sleeping for an hour dreams a seven days' dream that seven-day time is illusory.
2. This is in contrast to "of."
3. Though in an enlightening or ennobling attitude it may also return to Nature and comprehend it anew.
4. This is not true at the infra-atomic level.
5. As freedom is, by definition, self-conscious we need not append this adjective except where we distinguish it from other forms of indeterminate behavior. Nor need we be particular about whether we should call it self-conscious or conscious. The choice of either or none does not change the meaning which is always clear.
6. Later on we shall show how it accompanies the sub-conscious and the unconscious of psycho-analysis, and even what is called pre-conscious.
7. Freedom is only the modus operandi of the activity called 'lording over', or just another name for that activity. To call it a cause of that activity would be as meaningless as to say that an empty pocket is one which is full of emptiness.
8. This is true except where consciousness transcends the individual person round which it normally centers. More of this impersonal consciousness later.
9. 'Bodily behavior' in the present context has always to be understood as living bodily behavior.
10. Where a behavior of mind appears to determine causally one in my mind, or vice versa, this, we shall see, is a function of freedom, not causal determination; this is so with regard to any of my mental behaviors appearing to determine causally a behavior of my body.
11. For these mystics, the negation in question is not a 'hole' in Nature, nor such holes somehow connected with one another as holes. It is the region where the natural and the trans-natural meet. Even as negation, this region is alternatively natural and trans-natural, though even as trans-natural it is nothing more than negation.
12. Shortly it will be shown that reason is as much mental as trans-mental.
13. The apologetic view that logic and its cousins are only analytic language-systems, exaggerates the distinction between perception and reason. Reason may not assert a perceivable content; but, first, it cannot be said that it never does so, and secondly, no language-system, unless it is deliberately artificial, is merely analytic.
14. We shall soon turn to this.
15. The two replies are not only not nonsense, but, from another point of view, perhaps the best possible solutions. If the problem of the relation between Nature and trans-natural freedom is not a naturalistic problem because one term of the relation is not 'natural', neither is it a trans-natural problem because the other term is not trans-natural. One might, therefore, choose to proceed to offer a naturalistic account, however inadequate that may be. From this point of view, the two replies are quite intelligible.
16. This withdrawal is a form of negative trans-naturality mentioned in footnote 11, p. 22.
17. Out of question here. Whether, and how far, it is possible from some other angle of vision we shall see in a later section.

18. By this time it must have become clear to the reader that the terms 'freedom', and 'consciousness' are only different names for one and the same trans-naturality, which is often more generally called 'spirit'. Reason, as will presently be shown, is only one form of freedom.

19. This is true not only of reason, but equally of aesthesis and faith.

20. In a similar manner, this is true of his art and religious love and devotion.

CHAPTER X
A TOUCH OF ANIMISM
S. C. THAKUR

THE SEMANTIC PREAMBLE

Since in an obvious and fundamental sense man is a part of nature, and a very small one at that, any conjunction or disjunction of 'man' and 'nature' would seem to involve a category-mistake. We do not speak of 'the legs, the arms and the body' nor of 'apples, oranges and fruits'. It is evident, therefore, that in talking about 'Man and Nature' we are using 'nature' not in this first but in what is regarded as its second primary sense, namely, that in which 'nature' denotes everything excluding man and his creations. It is in this sense that man's creations are termed 'artificial' as against the other objects and processes of nature which are considered natural.

This use of the word is very simply a matter of convention; to quibble about it would be idle, if not mischievous. Nevertheless, it is interesting to note that only men create things. A bird's nest, a spider's web or a beaver's dam, though very complex and sometimes beautifully pieces of work, are still considered natural: these do not seem to deserve the distinction of being set apart from the rest of nature. The temptation to regard this convention as nothing but a product of human chauvinism may be hard to resist. We shall return to the role of this chauvinism later. At the moment, however, let us reflect briefly on some of the other factors that provide the foundations of this convention.

One reason why we set ourselves and our artifacts apart from the rest of nature is simply that we are interested in discovering the secrets of nature for ourselves and in understanding our relations with them. The beaver's or, for that matter, Humpty Dumpty's picture of the world may be very interesting, but it can have only an academic interest for us. Our primary and pragmatic interest must lie in our picture of the world revealed to us through our own concepts, theories, judgments and meanings. One does not have to be a rabid instrumentalist to accept that there is no getting away from this. The primacy of the human perspective in our talk about and dealings with nature is not just a methodological convenience, though it certainly is that, too; it is a 'constitutional' and practical necessity.

Without dwelling on this theme for too long, let us look at one other very important and obvious point of contrast between ourselves and the rest of nature. While the beaver's or the spider's works may be complex and admirably beautiful, they are all the same results of instinctive action rather than of conscious thought and planning. Only humans have the gift (or the burden?) of rational thought and, therefore, the power of abstraction and the ability to visualize and adopt distant goals, to have ideas and ideologies and, above all, the concepts of right, wrong, good and evil. These observations, while commonplace in a certain way, bring us to what, in the long run, must be the only genuine sense in which humans constitute a world of their own: the world of values.

As far as we can tell, there is no other species in nature which shares this world, apart, that is, from fairies, angels and science-fiction visitors from other planets. It is not difficult to see that while in the world of facts we are on a par with the rest of nature since we obey its laws, in the world of values we are sovereigns. This, as we shall see later, is a mixed blessing. There is little doubt, however, that but for this peculiarity there would have been no question of our getting

together to discuss and evaluate what we have, or should have, done to nature or how we must regard her in future.

Having thus argued that the second sense of 'nature' is well-grounded, I must hasten to add that the first sense is no less so. In fact, the latter needs no arguing. That we are creatures of nature and must in most basic ways submit to its dictates, is so painfully obvious that even the contemplation of doing otherwise verges on stupidity, if not lunacy. Yet, it is neither often nor strongly enough emphasized, particularly in the West, that we are part of nature, that we have no destiny independent of nature. This theme is left to be sung feebly and intermittently by poets, mystics, aesthetes as well as by drop-outs, freaks and fringe-cults of various sorts. I believe that a proper appreciation of this sense will have important consequences for our attitudes towards, and interactions with, nature.

A QUESTION OF COMPETENCE

As I leave the relatively secure shores of semantic observations, my confidence seems to ebb decidedly. What can a philosopher have to say on either man or nature that could be of interest or value to anyone? Partly as a result of our choice, but largely no doubt due to the phenomenal progress of the sciences, we may have been condemned into uttering mere inanities on subjects that have been rapidly appropriated by the various areas of science. At least, that is how things look. Even if we decide to recast our role and start philosophizing on substantive issues, as presumably some would wish to do, there is a danger that we may fail to carry conviction for, as philosophers, we do not have first-hand knowledge of all the facts relating to either man or nature. That task rests with biologists, psychologists, physicists, ecologists and other 'experts'.

The philosopher can, however, take courage from at least two features of the situation. One is that the experts are not all agreed on what the facts are, much less on their wider significance. For example, some scientists--mainly, though not exclusively, ecologists--tell us that our destruction and despoilment of nature and our heedless disruption of its processes have reached such crisis proportions that unless we radically alter our attitudes and ways, not only the survival of our own species is in peril, but possibly that of all living organisms. This view, however, is dismissed as alarmist by other scientists who have what the authors of *The Homeless Mind* call 'the engineering mentality'.¹ They believe in the infinite malleability of nature as well as in the limitless ingenuity of man, particularly their own kind, to solve any problems that we may have created for ourselves--and some do accept grudgingly that there may be problems!

These are only two, albeit the two main, sets of scientific opinion on the subject; both have their supporters, though certainly not in equal measure, outside their own ranks. Whatever the truth of these claims, the issues involved are so vital and of such immediate relevance that not even a thoughtful man-in-the-street, far less a philosopher, can afford to be indifferent. To wait until the facts are beyond dispute may well mean waiting forever and might constitute dereliction of duty as a human being, for even a casual acquaintance with the arguments in the debate makes it abundantly clear that the so-called facts are so heavily laden with questions of priorities, goals and values that it would be wrong, and dangerous, to leave the choice of these to scientists, economists or bureaucrats. Each man must decide for himself; and the philosopher surely is at least as well-qualified to do so as any ordinary man.

The issue of values is the other reason why a philosopher's opinions, if well-reasoned, may be of special interest; indeed, we may ourselves be the 'experts' here, if only because there are no others to claim the mantle. The facts in the dispute between opposing groups of scientists are

heavily laden with questions of value and when it comes to the world of values man is quite independent of nature. What we should make of those facts, how we must regard nature, what attitudes are appropriate--these are important questions of value on which the philosopher, more than anyone else, can and should have a say for, as far as I can tell, there is no recognized science of values.

THE CRISIS

Having given my reason for doing so, I proceed to declare my position in the dispute concerning man and nature. I am firmly on the side of the 'alarmists', or ecologists, to use a non-pejorative name. Let us refer to the opposition in the dispute as the 'engineers'. It is my opinion that the ecologists' assessment of the contemporary situation and of the future prospects for man is substantially correct. As one of their well-known documents, *A Blueprint For Survival*, declares,

The principal defect of the industrial way of life with its ethos of expansion is that it is not sustainable. Its termination within the lifetime of someone born today is inevitable--unless it continues to be sustained for a while longer by an entrenched minority at the cost of imposing great suffering on the rest of mankind. We can be certain, however, that sooner or later it will end (only the precise time and circumstances are in doubt), and that it will do so in one of two ways: either against our will, in a succession of famines, epidemics, social crises and wars; or because we want it to--because we wish to create a society which will not impose hardship and cruelty upon our children--in a succession of thoughtful, humane and measured changes.²

Rhetoric aside, the main conclusions of this document are, I believe, sound and well-supported by scientific, sociological and statistical data. As it would be pointless and painful to reiterate the details of a published and readily available document, I will refer only briefly to some of the important factors that have brought the crisis upon us. The most obvious of these, of course, is the notorious fact that the human population of the world is staggeringly large and growing at an alarming rate. According to the *Blueprint*, the world population in 1972 was 3,600 million and increasing at the rate of 2 per cent or 72 million per year. The rate of population growth in the so-called 'developed' countries was between 0.5 and 1.0 per cent, and in the 'developing' countries between 2 and 3 per cent per year. This means that even if the world's population stabilizes by the year 2000, which is not at all certain, the earth will then have to support a population of 15.5 billion.

Equally damaging, if not more so, is the ever-increasing per capita use of energy and raw materials. The main culprits here are the advanced industrial societies which, with one-third of the human population, account for nearly 80 percent of the energy and raw material consumption. Since their current level of consumption is so inordinately high, even as small an annual growth as that of 4 per cent results in mammoth demands on the world's total resources. Taken together, these two facts lead to one simple conclusion. The world cannot cope with this continued increase in ecological demand. By ecological demands is meant a summation of all man's demands on the environment, such as the extraction of resources and the return of wastes. Needless to say, if the ecological demand grows exponentially, as seems to be the case, it will be quite simply impossible to meet.

These two factors, combined with widespread individual ignorance and avarice, are causing large-scale disruption of ecosystems, failure of food supplies and exhaustion of resources, and thereby threatening chaos and the collapse of society. This is strong language indeed, but the situation demands nothing less. Even Passmore, in his thorough and erudite, though somewhat complacent work, *Man's Responsibility for Nature*,³ admits the immensity of the problems. The ecological problems of pollution, conservation, preservation and multiplication are, he accepts, serious enough. But his general optimism, I fear, reflects what I earlier called the engineering mentality: given the infinite ingenuity of our scientists and the solid base of Western institutions, every problem can be solved; it is but a matter of time. Mary Midgley's disappointment at Passmore's failure to convey the real urgency of this situation in which time may be running out is well-founded. She is absolutely right: the situation does call `for Heaven's cherubim horsed upon the sightless couriers of the air, to blow the horrid deed in every eye, that tears may drown the wind',⁴ and not for Passmore's attitude, `Send for the fire brigade . . . they are far more efficient than you imagine. Keep calm.'⁵

RENOUNCING THE `ROGUES'

The situation leaves no room for complacency; as the quotation from the Blueprint declared, the present state of affairs must end. The only question is: shall we let that happen `against our will, in a succession of famines, epidemics, social crises and wars' or through `a succession of thoughtful, humane and measured changes'?⁶ The answer is, of course, the latter. But what changes are required? Since the malaise is deep, pervasive and has many facets, clearly many things will have to be done in a planned and orderly way; some, at least, will have to be radical. In this short paper I can mention only some of the changes which appear to be required and treat one or two in relative detail.

The need to curb and stabilize world population without delay is, of course, the first step to be taken. This seems to be generally well-recognized. Efforts are being made to bring it about speedily, though success is still limited to small pockets of the world. What has not been so well-recognized, perhaps, is that the rocketing ecological demand is a direct outcome of our industrial-technological way of life, ably supported by the philosophy of progress now defined as economic growth. The other change that must be made, therefore, is the emphatic renunciation of both of these. The former, besides creating, nurturing and multiplying ecological demand, creates in society widespread depression, alienation, anomie and compartmentalization of life. All are components of what Berger, Berger and Kellner have called the state of homelessness in modern, affluent societies. The industrial-technological revolution may have been one of the best things that happened to mankind, but it appears to have outlived its utility. In this case, the inevitable stock-taking that occurs after every revolution seems to show that the price paid for ushering in the industrial era may have been too high.

However, this huge and complex machinery neither can nor ought to be stopped overnight. That would be neither reasonable nor humane. Caution and discrimination are needed, sorting out problems of production from those of distribution and both from the lack of moderation. To take but one example, the United States of America cannot be said to have a problem of production; what it needs is a more equitable distribution of the abundance it already enjoys, coupled with moderation in demand. This is also the case, in varying degrees, for most of the affluent nations whose need is not to step up industrial activity. On the contrary, they need to de-industrialize and rationalize their social structure and life-style in the light of what is already

known about the deleterious social effects of the urbanized, industrialized way of life. Neither does the solution to the problems of the developing, poorer countries lie in the industrial-technological-bureaucratic complex. Problems of production and of equitable distribution to keep their rapidly growing populations reasonably well-fed do exist and I intend to discuss later how their problems could be approached.

Any attempt to renounce the industrial-technological way of life, however, is doomed to failure unless it is preceded or accompanied by the rejection of the underlying philosophy which regards growth as a value. It takes little reflection to see that growth, except in a specified context, is not a value at all. Were one's eighteen-year-old son to be only four feet tall, he might be justified in worrying about his growth and consulting a physician. But were one's eighty-year-old grandfather to remain at five feet eight inches, his height throughout his adult life, it would be foolish to give this another thought. Likewise, if after five years one's willow tree is only a few inches high, something may need to be done, but not so if a dwarf plant is at that height after only a few weeks.

Growth can be a value only in certain contexts, in the light of certain norms and possibilities. The philosophy of economic growth seems to be misconceived and dangerous insofar as it is advocated for its own sake alone. Generally, this is done irrespective of any context of genuine need and in the face of the awesome fact that the world's resources will not permit it much longer. Consuming and throwing away ever-increasing amounts of various goods is a product of greed and faulty education, not of need and deprivation. The Club of Rome has already argued powerfully against the desirability and feasibility of further economic growth. The expressed hope that a rapidly growing society will create some large surplus of goods to be shared by all sections of that society is a delusion. The most affluent societies still have large pockets of relative poverty; in most of them a small percentage own the bulk of the land's resources. Their problems are political and philosophical, not those of economic growth.

PEOPLE-ORIENTED INDUSTRY AND SENSITIVE TECHNOLOGY

The above argument against any further expansion of the industrial way of life, with all its attendant problems and perils raises the question: How are the developing, poorer countries to raise their standards of living or even feed their populations, if not with the aid of industry and technology? In answer one must, first of all, distinguish between the industrial-technological way of life and the use of industry and technology. Renouncing the former does not, to my mind, entail the rejection of a judicious and careful use of industry and technology of a limited size and for limited purposes. Adopting the former involves a blind, slavish imitation and importation of a life-style that is foreign to the culture and genius of most developing countries. But that is not the case with every use of industry and technology; some sort of traditional and small-scale use of which has been part of almost every stable, viable community. A reasonable enlargement and modification of such indigenous industry and technology, where necessary to cope with new demands, will not threaten the stability of a society by exposing it to the ills of the centralized, urbanized monoculture which the logic of industrial society creates and encourages.

For example, since the most pressing problem for the developing countries is the control of their exploding populations and since prayer alone will not stop children from being born, they must ensure an adequate supply of various contraceptive devices. These should not be produced in one or two large, heavily automated industrial complexes, however. That would require an additional infra-structure for storage, transport and distribution; it would also limit the

employment opportunities created. Would it not be possible to create a chain of small factories, distributed as evenly as possible around the whole country, each supplying the needs of its neighboring community? Given the will, the same could be done for steel, cement, fertilizers and other essential goods. This sort of distribution of small-scale production centers would provide jobs locally, instead of sending every job seeker off to the big cities. The worker would still remain part of the society to which he is accustomed, instead of becoming an anonymous, unwilling and uncooperative citizen of a metropolis. This way of doing things would mark a radical departure from the centralization implicit in the industrial way of life. The aim of such a decentralized society would be the attainment of self-sufficiency for every basic unit of its population, e.g., the village. This has been ably argued by Schumacher in the book, *Small is Beautiful*,⁷ and, of course, by Gandhi in many of his writings.

Recently, it has been widely recognized, though not often enough in the corridors of power, that the introduction of heavy industry and highly sophisticated, capital-intensive technology into developing countries has a very disruptive, almost counter-productive effect on the indigenous population. Consequently, much has been written on what sort of technology would be appropriate. The suggestions have included 'Intermediate Technology', 'Appropriate Technology', 'Alternative Technology' and 'Low Impact Technology'. All of them share certain features, notably the need to avoid unnecessary disruption of nature and natural and ecological processes; all of them can be applied outside the developing world. There are, however, certain differences among them, if only of emphasis. For example, intermediate and appropriate technologies emphasize a change from capital-intensive to labor-intensive technology. While they take into account the natural resources of a given region, their primary stress is on the creation of jobs for people. Low impact or alternative technologies, on the other hand, are mainly concerned with minimizing the impact of technology on the environment. Hence, they involve the use of such energy sources as solar, wind and tidal power. These types of technology, however, are less likely to create greater employment opportunities, which is a central concern of intermediate technology.

There is need for a technology which can combine the significant features of both these types of technology. The creation of jobs as well as the preservation of the environment are equally important, especially in the developing world. This new kind of technology could perhaps be called sensitive technology and would be sensitive to:

- (i) the ecological balance of a given region, and not unduly disruptive of the 'food chain' in the region;
- (ii) the needs of the people in that region, and conducive to the goal of self-sufficiency for the region;
- (iii) the pattern of distribution of natural resources in the region, and committed to the use, as far as possible, of local raw materials and forms of energy.

In short, the technology must be sensitive and responsive to nature, including man. Such technology cannot be a simple tool of production, it must also have aesthetic properties. It will not aim at controlling or exploiting, but rather at 'encouraging' nature to provide for man what he must have for care-free and reasonably comfortable living. While this must be done, because man's basic needs can only be met in and through nature, man must also learn to minimize his need for goods.

A PLEA FOR PARTNERSHIP

These suggested changes are radical and far-reaching; they cannot be effected overnight or without tremendous effort. Their successful implementation will depend upon a massive program of education, or re-education, at all levels. This must create and foster in people a deep and continuing awareness of the interrelatedness and interdependence of all things and processes in nature. Here again, there is a huge obstacle to be overcome: the well-entrenched Western attitude that nature is a wild beast to be tamed, overcome, controlled and exploited at will. This human chauvinism, the attitude that nature is for human control and exploitation springs directly from the reigning Western philosophy. It holds that nature was created for man's use; that at best it is to be cajoled into subservience, at worst it is to be pillaged and raped according to human needs and passions. The industrial-technological way of life may or may not have been born out of this philosophy, but surely it could not have prospered without it. Though Passmore may be right in maintaining that in the Western tradition there have been other models of the relationship between man and nature such as stewardship, the most dominant trend has been that of control and mastery over nature.⁸ The insensitivity in this respect of some of the greatest minds in history is fairly evident. The notion of stewardship, too, is plainly chauvinistic; it suggests that we are superior to the rest of nature, so should look after it. Even a grudging acceptance that man, by his folly, has brought himself and nature to near ruin suggests a search for better models for the relationship between man and nature.

In the first sense, wherein man is an integral part of nature, the whole idea of control or mastery seems quite absurd. This can be illustrated by the following allegory from a child's reader. Noting that the stomach was inactive, the more active members of the human organism, the arms, the legs, the mouth, the eyes, etc., decided to teach the lazy stomach a lesson by going on strike. The arms would not accept anything, the legs would not move in the direction of food, the mouth stopped chewing and the eyes stopped seeing and giving the relevant information. It is not hard to imagine the consequence: the striking members soon realized that, without food going into the stomach they no longer had the energy to continue on strike. They had learned their lesson and, with the apologies to the lazy stomach went back to their respective chores. The apparently inert stomach was crucial to their own health. To the question of whether man can have a duty to nature this story gives an unambiguous answer. As a part of nature, cooperation with, and care for nature are quite obviously his duties; he can fail to discharge them only at his peril.

Does the second sense of 'nature' also admit the model of cooperation or partnership between man and nature? I think it does. In the Sankhya system of Indian philosophy *purusa* and *prakrti* which can be translated without too much distortion as man and nature, are likened to two men, one lame and the other blind, whose mutual cooperation is a prerequisite for the evolution of nature. The lame man (man, in our context) needs the energy, activity, resources of the blind man (nature, in our context). The latter, in turn, is helpless without the sight or consciousness of the former. In an outbreak of fire, let us say, the lame man rides on the shoulders of the blind man; the latter does the walking, the former the pointing, and thus both are saved. Whatever the appropriateness of this analogy, in the metaphysical perplexities of the Sankhya system--and I have my doubts on that count--it seems particularly apt for our purposes.

Nature is rightly seen, I think, as blind, that is, as without rationality. But a blind man is a man all the same; he is sensitive and would retaliate if not treated properly. Ecology leaves us in no doubt that nature is an extremely intricate and sensitive nexus of means and ends. The

slightest tampering with it is 'noticed' and acted upon. Does it matter if it does not look intelligent or sensitive all over? Do our hair and nails look intelligent, sensitive, or even useful? Nature is 'intelligent' in its own way, as a system; and we certainly need it for our life, our actions, our creations. But does nature 'need' us? After all, any partnership worthy of the name must be based on reciprocal need and, if possible, love. The answer, though contrary to the dictates of our chauvinism and therefore difficult, must be affirmative. Nature would be poorer without man for no other species can write poetry, create music, embellish or enrich nature with its art and sculpture or even have science. That is the positive side. Looked at negatively, the simple truth is that we must be partners. That nature can destroy us, we have known all along. Now we also know that, thanks to such discoveries as the nuclear bombs and germs we can hatch, we can destroy it too. There can be no better prudential motive for a partnership than the knowledge that both parties are capable of destroying each other.

This, I suppose, is 'animism'. Passmore notwithstanding, we do need a new (or is it very old?) morality, philosophy or attitude towards nature. The above analogy does seem to hold. But even if the suggestion that nature is intelligent or sensitive were materially false, we would, for our own good, have to adopt a methodological animism; we would have to behave as if nature were intelligent. A 'touch of animism' could hurt no one, and could do us a lot of good. There is no need to worship; an attitude of simply caring should be sufficient and salutary.

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NOTES

1. P. L. Berger; B. Berger; and H. Kellner, *The Homeless Mind* (New York: Pelican Books, Penguin, 1974), p. 13.
2. "A Blueprint for Survival, *The Ecologist* (1972), II, 2.
3. John Passmore, *Man's Responsibility for Nature* (New York: Scribner, 1974).
4. Mary Midgley, Review of Passmore's *Man's Responsibility for Nature* in *Philosophy* (1975), L, 108.
5. *Ibid*, p. 107.
6. *The Ecologist*. *op. cit.*
7. E.F. Schumacher, *Small Is Beautiful* (New York: Harper and Row, 1975).
8. Passmore, *op. cit.*, Chapters 1 and 2, pp. 3-40.

CHAPTER XI
THE NATURE OF MAN AS TAO
CHANG CHUNG YUAN

According to Chinese Taoist philosophy the highest attainment of man is the identity of man himself with the reality of things. This identity is not a concept of mediation nor a rational synthesis of the subjectivity of man and the objectivity of things. It is the direct, spontaneous, unimpeded, mutual solution which takes place in the absolute moment. Identity, here, is no longer a principle or a statement about identity. It is, as Professor Martin Heidegger says, and as I noted previously, "a spring into the essential origin of identity."¹ This "essential origin of identity" is conceived by Taoist philosophers as the real nature of man.

In our daily life we are constantly drawing distinctions between things. There is movement and quiescence, high and low, life and death, yin and yang, and so forth. These polarities are infinite in number. Taoist philosophers traditionally ask in what way are these opposites related and whether there is any possibility of unity within their diversity. To answer these questions, Lao Tzu in his work, *Tao Te Ching*, says the following:

When beauty is universally affirmed as beauty, therein is ugliness. When goodness is universally affirmed as goodness, therein is evil.²

This idea of mutual opposition also has been pointed out by Hegel: "In every distinguishing situation each pole is for itself that which it is; it also is not for itself what it is, but only in contrasting relation to that which it is not." "Position and opposition contain both their mutual affirmation and negation. Each finds itself in its opposed other."³ This "opposed other" formulated by a thing itself, is maintained also by Lao Tzu, who says:

Being and Non-being are mutually posited in their emergence. Difficult and easy are mutually posited in their contemporaries. Long and short are mutually posited in their positions. . . .⁴

Although the dialectics of Hegel and Lao Tzu seem to be one and the same, the goals of the two dialectic processes are different. In *The Central Philosophy of Buddhism*, T.R.V. Murti says that the movement of Hegel's dialectic is a passage from a lower concept with lesser content to a higher concept with a greater content. It begins with the idea of pure Being which has least content and culminates in the idea of the concrete absolute which is "the most comprehensive unity of all."⁵ In Lao Tzu's dialectic there is no elevating movement towards the fixed goal of a comprehensive, rational absolute. Rather, there is a further step which Professor Kitaro Nishida, a leading philosopher of Japan, calls "the self-identity of contradiction."⁶ In "the self-identity of contradiction," the opposites: Being and Non-being or beauty and ugliness are mutually identified within themselves and not in any higher synthesis. Thus, there is no progression toward an absolute beyond all contradictions, but contradiction exists simultaneously with identity. Nishida illustrates this in his work *Fundamental Problems of Philosophy*:

At the depth of life there is something which is both negation-qua-affirmation and affirmation-qua-negation. We usually think that something to be physical matter, but mere physical matter can only have the significance of negation in opposition to life. If we understand the ground of life to an ultimate point in such a sense, we

must conceive that there is an absolute affirmation-qua-negation and absolute negation-qua-affirmation in the very depth of life.⁷

This absolute affirmation-qua-negation indicates the simultaneous occurrence of difference and identity. In the second chapter of "Identity of all things," in the work of the 4th century B.C. philosopher Chuang Tzu, we have:

Construction is destruction.
Destruction is construction.⁸

Between construction and destruction there is a difference, but simultaneously construction and destruction are identified. This idea is further developed in the philosophy of Chou Tun Yi, the pioneer of Neo-Confucianist philosophy of the 11th Century.

When moving it is without quiescence and when quiescent there is no movement, such are material things. When moving yet it has no movement, when quiescent, it yet has no quiescence, such is the spiritual reality. But movement which thus lacks movement and quiescence which thus lacks quiescence does not mean non-movement or non-quiescence. For whereas material things do not interpenetrate one another, spiritual reality is the most wonderful of all things.⁹

Therefore to see movement as movement, and quiescence as quiescence is to see the one-sided aspect of nature. But when we see movement in quiescence and quiescence in movement, this is to see the deeper nature of things.

The deeper level of nature is not limited to the identity of opposites; it also applies to the transitional process of affirmation and negation within the polarities, which is a continuous sequence of continuity and discontinuity. As Nishida says, the world of reality contains self-negation within itself. It is the world of reality which both affirms and negates itself, and it is this true world which contains the continuity of discontinuity. In Chapter 18 of his work, Chuang Tzu applied this idea of dialectic transition to a rough sketch of a theory of biological evolution. He points out that there is a constant transition in the origin of living things from the germ to plants, from plants to animal creatures, with man finally emerging. Whether this is any real scientific contribution to the theory of evolution need not be discussed here. The illustration does indicate, however, an awareness of the development of living things in nature through the constant dialectic process of affirmation and negation. Thus the real world is the constant continuity of discontinuity.

The dialectic process of constant interaction of continuity and discontinuity was originally conceived by Lao Tzu as a creative one. As he says in Chapter 42 of the Tao Te Ching:

From the Tao, One is created;
From the One, Two;
From the Two, Three;
From the Three, ten thousand things.¹⁰

The numbers used here are simply to indicate the creative process of affirmation and negation or the continuity of discontinuity. To see creativity result from the dialectic process of affirmation-negation is to see nature in action, says Lao Tzu.

For Taoists, nothing in nature exists isolated by itself. Rather, all things are interdependent. Thus, no phenomenon in nature can be truly understood by separating it from other things.

However, the interaction of these things as we have pointed out previously is not limited to polar entities. Taoists also apply their organic concept of unity and multiplicity, or oneness, to all things. In Chapter 25 of the work of Chuang Tzu, it states: "When we point to see different parts of the horse's body, we don't really have a horse. But when we conceive the integration of all parts of the body, then we have a horse in front of us."¹¹ This organic concept of unity illustrates the formation of the whole through the interrelation of all the parts, that is, discordant parts unite to form an harmonious whole. When all the parts unify themselves into an organic whole, each part breaks through its shell and interfuses with every other part, each identifies itself with every other one. Thus, one is in many and many are in one. In this way, all particularities dissolve into one and all the parts of the whole disappear into every other part of the whole. Each individual merges into every other individual; it is through this unity in multiplicity that the interfusion and identification of each individuality senses its function in the creation of the whole. This idea has been illustrated by Lao Tzu in Chapter 11 of his book.

Thirty spokes joined at the hub
From their non-being arises the function of the wheel.
Lumps of clay are shaped into a vessel
From their non-being arise the function of the vessel.¹²

The wheel is the unity of the spokes, and the vessel is the the unity of the clay. In Lao Tzu's sense, the wheel can function as a wheel due to the organic relationships among the spokes. In other words, the interfusion and identification of the parts create a functioning wheel, a whole.

The Taoists, however, did not stop there. Although they applied this organic concept to the construction of things, they also went a step further and entered into a realm of the pre-ontological experience through a dialectic negation. As Chuang Tzu once said:

Heaven and earth and I live together,
And therein all things and I are one.¹³

This oneness is the product of his pre-ontological experience, which is invisible and unfathomable. This invisible and unfathomable oneness is called the realm of the great infinite. Here there is neither space nor time. It is, in fact, the realm of non-being, which is absolutely free from limitations and distinctions. We have Chuang Tzu's own description of the realm of non-being:

Being is without dwelling place, continuity is without duration. Being without dwelling place is space, continuity without duration is time. There is birth, there is death. There is issuing forth, there is entering in. That through which one passes in and out without seeing its form--that is the Gate of Heaven. The Gate of Heaven is non-being. All things spring from non-being.¹⁴

Non-being is the highest unity of all things. In Heidegger's expression this is 'the Being of beings in its unconcealedness and concealment.'¹⁵ This Being of beings is in the Eastern sense Non-being which is the invisible and unfathomable absolute reality of all potentialities and possibilities of the universe. Therefore, Lao Tzu calls it great, which means infinite, boundless and immeasurable. When we think of this immeasurableness, it gives us some sort of insight into the timelessness of time and the spacelessness of space. It is the absolute moment which opens the secret to the existence of all things, and frees us from previous rational conditioning and limitations. When Lao Tzu called Tao the mother of all things, he referred to the realm of non-

being as the primordial source of every beginning, the ultimate reality from which all birth issues forth. Thus Heidegger says in his essay "What is Metaphysics": "We assert: 'Nothing' is more original than the Not and negation."¹⁶

However, this primordial non-being cannot be conceived of as one-sided. Its highest affirmation is both absolute negation and absolute affirmation. It is both non-being and being, and, as such, is self-determining both as particularity-qua-universality and as universality-qua-particularity. This basic concept of Taoist philosophy can be illustrated by the notion of creativity and sympathy.

When all the potentialities of the absolute realm of non-being or infinity penetrate into every diversity, one embraces all particularities and enters into each. Such a process indicates the great creativity. On the other hand, when all the potentialities of every diversity unite into one, each particularity embraces all the other particularities, together penetrating into the realm of non-being. This process indicates the activity of the great sympathy. From the point of view of sympathy, we see Tao as the synthesis of infinite possibilities and potentialities. This is the unity of particularities or multiplicities. From the viewpoint of creativity, we see Tao as a radiative dispersion into the infinite multiplicities and particularities. Thus, creativity goes in the opposite direction from sympathy. In short, "sympathy moves from all to one, creativity moves from one to all. Without sympathy there is no ground for fulfillment of potentialities to support creativity. Without creativity there is no means of actually revealing sympathy."¹⁷ Since sympathy and creativity move hand in hand, each represents an aspect of the process between one and all, which is the fundamental phenomenon of Taoist organic philosophy.

The metaphysical structure of this sympathy is revealed in the realm of absolute reality in which everything breaks through the shell of itself and interfuses with every other thing. All the multiplicities and diversities of the universe interpenetrate with one another and enter into the realm of absolute reality. In the Taoist ideal community, man makes no artificial effort toward morality, but his self is merged with other selves and all other selves are, in turn, merged into his self. Neither the individual nor the group is consciously aware of, or purposefully directed toward, this. Chuang Tzu's description of this manner of living appears in Chapter 12 of his work:

They loved one another without knowing that to do so was benevolence. They were sincere without knowing that this was loyalty. They kept their promises without knowing that to do so was to be in good faith. Thus, their actions left no trace and we have no record of their affairs.¹⁸

What Chuang Tzu means by "no trace" is an explanation of the character of identification in the realm of non-being. Men in the realm of non-being maintained their original nature. As he says further:

In the days of perfect nature, men were quiet in their movements and serene in their looks. They lived together with birds and beasts without distinctions of kind. There was no difference between the gentleman and the common man. Being equally without knowledge, nothing came between them.¹⁹

This world of perfect nature is a world of free interfusion and unification among men and between men and all things. Between all multiplicities and diversities there existed no boundaries, men could work with men and all could share spontaneously. Each identified with others and all lived together as one. Man lived an innocent and primitive life, yet there was no conceit nor selfishness. In this simplicity and purity we see the free movement of the real nature of man. We cannot expect this in a world of artificial morality and intellectuality, full of

distinctions and differentiations. Only in the world of absolute free identity does there exist the great sympathy, the universal force of nature which holds together man and all things.

When we regard the realm of non-being as the pre-ontological basis for the fulfillment of the great sympathy, it is to see Tao as the interfusion and identification of infinite potentialities and possibilities. Thus, the realm of non-being serves as the unification of multiplicities and diversities. However, when we approach Tao from the reverse direction, we see Tao as having penetrated into infinite multiplicity and into the manifold diversities of existence. Thus, it is the dispersion of potentialities and possibilities from universality to particularity, and fulfillment of the process of the great creativity. In the process of creativity each particularity reveals the potentiality of all universalities. Chuang Tzu illustrates the idea for us accordingly:

Those who rely upon the arc, the line, compass, and the square to make correct forms injure the natural construction of things. Those who use cords to bind and glue, to piece together, interfere with the natural characteristics of things. . . .

There is an ultimate reality in things. Things in their ultimate reality are curved without the help of arc, straight without lines, round without compasses, and rectangular without right angles.²⁰

When inner reflection takes place, it fulfills the process of manifesting ultimate reality in nature. The process is direct, immediate, and spontaneous. The curve simply reflects its curves, the line its straightness. The flower blooms in the Spring and the moon at night shines upon the lake. To see unity within multiplicity is to see infinite potentialities manifested in each particularity. This insight is the Taoist contribution to the understanding of creativity.

Chuang Tzu gives us an illustration of this idea in his example of the centipede. From the relative point of view, the insect, of course, does have its hundred or so different legs. But from a higher point of view, there is a unity of multiplicity. The coordinated movement of all the legs is a manifestation of unity. From this unity we see the centipede as a whole creature. All has penetrated into one and the movement of all, the legs, is an interpenetration of the one into all.

Lao Tzu says:

Obtaining the One, Heaven was made clear.

Obtaining the One, Earth was made stable.

Obtaining the One, the Gods were made spiritual.

Obtaining the One, the valley was made full.

Obtaining the One, all things lived and grew.²¹

The One which is possessed by Heaven, Earth, the Gods and all things is the same One, the Tao. In other words, they all embrace the same One, the Tao; and the same One, the Tao, embraces and pervades them all. What is this Tao? According to James Legge, the first English writer who endeavored to give a distinct account of Taoism was Archdeacon Hardwick, while he held the office of Christian Advocate in the University of Cambridge. He thought that "the center of the system founded by Lao Tzu had been awarded to some energy or power resembling the 'Nature' of modern speculation."²² However, according to tradition we often contrast nature with man. Nature in one sense is conquered by man and in another sense conquers man. The dichotomy of nature and man implies their opposition (and mutual destructiveness). Yet, according to Taoist philosophy, while separating himself from nature, man is identified with nature. Instead of considering man objectively in opposition to nature, the Taoist task is to make man retreat into himself and see what he finds in the depths of his being. Thus, the problem of

nature is to search for the truth within man himself. In Chuang Tzu's expression it is the return to p'o or the uncarved block. He says: "It is because they had the quality of the uncarved block that they did not lose their original nature." In this uncarved simplicity we see the free movement of nature."²³ In the remote past in China there was an old poem which may serve to illustrate this:

When the sun rises I work in the field.
When the sun sets I have my rest.
I dig a well and I drink.
I till the soil and I eat.
What has the imperial power to do with me?²⁴

The author of this poem is unknown, but things with him are just as natural as the water murmuring in the stream and the wind passing through the trees. His experience of pure objectivity is pure subjectivity; they are totally identified. As Nishida says:

To experience means to know events precisely as they are. It means to cast away completely one's own inner workings, and to know in accordance with events. Since people usually include some thought when speaking of experience, the word 'pure' is here used to signify a condition of true experience itself without adding the least thought or reflection. . . . Thus pure experience is synonymous with direct experience.⁵²

This kind of direct experience may be related to a traditional Chinese Buddhist saying:
Do not think of good, do not think of evil, when no thoughts arise, let me see your primary face.²⁶

This primary face indicates the mind before the emergence of the dichotomy of good and evil. It is pure subjectivity, free from the duality of active and passive. It is called the "original mind" by Chinese Buddhists and Neo-Confucianists. When one is aware of one's original mind, one sees one's own nature, or in Chinese: ming hsin chien hsing. To be aware of one's original mind and to see one's own nature has been the task pursued by Chinese philosophers for more than a thousand years.

Hui-neng, the sixth patriarch of Ch'an Buddhism, once said:

The person who sees into his own true nature is free when he stands as well as when he does not stand. He is free both in going and coming. There is nothing which retards him, nothing which hinders him. Responding to the situation he acts accordingly, responding to the words, he answers accordingly. He expresses himself taking on all forms, but he is never removed from his self-nature. . . . That is called seeing into one's true nature.²⁷

What has been said by Hui-neng, that we are to see the nature of man through self-identity and contradiction, also is, as I have pointed out in this lecture, the real essence of Taoist philosophy.

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NOTES

* The essence of Tao was first discussed by Lao Tzu (6th century B.C., China), in the Tao Te Ching or Canon of the Way and its Attainment. This ancient Chinese script was first introduced to the Western world in 1788. This was in the form of a Latin translation which was brought to the Royal Society in London. In 1816, when Hegel lectured on the History of Eastern Philosophy he mentioned that he himself had seen the text of the Tao Te Ching in Vienna. According to him the meaning of Tao 'is nothing, emptiness, the altogether undetermined, the abstract universal, and this is called Tao or Reason . . . it is the highest existence, all determinations are abolished, and by the merely abstract Being nothing has been expressed excepting this new negation only in an affirmative form.' (Hegel's Lectures on the History of Philosophy, Vol. I, p. 124, translated by E.S. Haldane) Hegel's interpretation of the meaning of Tao was based upon the Western philosophical tradition, according to which Tao is Reason or abstract Being. In this paper the interpretation of Tao is different from that of Hegel. This paper is a further development of the meaning of Tao which was originally presented at the International Congress of Philosophy in Venice and later expounded in my works, Creativity and Taoism and Tao: A New Way of Thinking, both of which are published by Harper and Row.

1. Martin Heidegger, Identity and Difference (New York: Harper & Row, 1969), p. 40.
2. Chung yuan Chang, Tao: A New Way of Thinking (New York: Harper & Row, 1975), p. 7.
3. G. Hegel, Encyclopedia of Philosophy, trans. by G.E. Mueller (New York: Philosophical Library, 1959), p. 118.
4. Chang, Tao, p. 7.
5. T. Murti, The Central Philosophy of Buddhism (London: G. Allen & Unwin, Ltd., 1970), p. 302.
6. Kitaro Nishida, A Study of Good, trans. by V.H. Viglielmo (Japan: Printing Bureau Japanese Govt., 1960), p. iii.
7. Kitaro Nishida, Fundamental Problems of Philosophy, trans. by David Dilworth (Tokyo: Sophia Univ., 1970), p. 204.
8. The Works of Chuang Tzu, Chuan 2.
9. Chou Tun Yi, Explanation of the Diagram of the Supreme Ultimate.
10. Chang, Tao, p. 118.
11. The Works of Chuang Tzu, Chuan 25.
12. Chang, Tao, p. 35.
13. The Works of Chuang Tzu, Chuan 2.
14. Ibid., Chuan 23. See also C.Y. Chang, Creativity and Taoism (New York: Harper & Row, 1963), p. 35.
15. M. Heidegger, On Time and Being (New York: Harper & Row, 1972), p. 79.
16. M. Heidegger, Existence and Being (Chicago: Henry Regnery Co., 1949), p. 331.
17. Chang, Creativity, p. 77.
18. The Works of Chuang Tzu, Chuan 12.
19. Ibid., Chuan 9.
20. Ibid., Chuan 8.
21. Chang, Tao, p. 109.
22. James Legge, The Texts of Taoism (New York: Julian Press, 1959), p. 59.
23. The Works of Chuang Tzu, Chuan 9.
24. Chang, Creativity, pp. 171-72.

25. Nishida, *A Study of Good*, p. 1.
26. Hui-neng, *The Platform Sutra of the Sixth Patriarch*.
27. *Ibid.*

CHAPTER XII
HEIDEGGER: THE MAN-NATURE PROBLEMATIC
THOMAS A. FAY

The formulation of the problematic as 'Man and Nature' would appear to rest upon some very large assumptions; hence, care must be taken lest it prejudice the question. Various suggestions have been made towards a more adequate formulation. Professor Chen noted four different senses in which nature has historically been understood; Professor Deutsch suggested that 'Man-Nature' (hyphenated) might be more adequate; Professor Smith spoke of 'Man in Nature'; and Professor Parsons, 'Nature standing over against man'.

As a way of reflecting on this galaxy of problems, I shall take as my point of departure the phenomenological perspectives of man as they appear in the thought of Martin Heidegger, and this for two reasons. First, whether we agree with it and find it stimulating to our own reflections as even Wittgenstein did,¹ or regard it as nonsense as did Carnap,² it represents one of the most powerful analyses of man-in-the-world which has emerged from twentieth century thought. My second reason for choosing Heidegger is that, of Western thinkers, his thought represents one of the most promising starting points for dialogue with the East. For example, his analysis of das Nichts, the Nothing, is very close to the Buddhist conception of emptiness as well as to the Taoist concept of non-Being, so excellently explored in the paper of Professor Chang.

The problem on which we are reflecting then, is man and nature and we are using Heidegger's thought as the heuristic device with which to probe it. Now Heidegger, for his part, would attempt to cut completely across the lines which allow this to become a problem at all. He attempts to do this by the phenomenological analysis of man which was undertaken especially in *Sein und Zeit*.³ The result which this phenomenological analysis of man yielded was to disclose man as *Dasein*, that is, the 'There of Being' and also as *in-der-Welt-Sein*, to-be-in-the-world. In terms of our problematic of man and world these two notions have consequences of the very greatest importance. But why should this be so? The basic thrust of Heidegger's thought, at least since *Sein und Zeit*, has been an implacable struggle against the subject-object dichotomy introduced by Descartes,⁴ from whose time man has been regarded as a subject.⁵ Descartes had sought for an indubitable foundation upon which to erect his philosophic structure, the *fundamentum inconcussum veritatis*,⁶ which he located in the *cogito-sum*. As a consequence man was conceived purely from the perspective of subjectivity; he was primarily a *res cogitans*⁷ or thinking thing who, as subject, stands apart from a world now composed of objects which are his diametric opposites, *res extensae*.⁸

Heidegger has been locked in a struggle against the conception of man.⁹ No remedy such as humanism or a revamped anthropology applied to man *ab extra* can adequately ameliorate the situation of contemporary man. For this, he must so conceive of himself and his relationship to his world that he will find an appropriate dwelling place.¹¹ Heidegger attempts to re-think the nature of man¹² from the standpoint of his involvement in Being. 'The essence (*Wesen*) and the manner of human being (*Menschseins*) can only be determined from the essence (*Wesen*) of Being.'¹³ To characterize this involvement he chose the term *Da-sein*, the 'There' of Being, the scene of disclosure, openness to Being.¹⁴ To break away from the Cartesian tradition which had split man off from his world, he also designated man as being-in-the-world, *in-der-Welt-sein*.¹⁵ According to Heidegger, the Greek definition of man as rational animal¹⁶ is not incorrect, but is totally inadequate.

The Greeks . . . in the pre-philosophic as well as in the philosophic Dasein interpretation defined the essence of man as *zoon logon exon*. The later interpretation of this definition of man in the sense of rational animal, rational living being, is indeed not false, but it covers up the phenomenal foundation from which this definition of Dasein is taken.¹⁷

It defines man in terms of animalitas rather than by the prerogative which is uniquely his, his comprehension of being. `The characteristic feature of the Dasein which man is, is determined through the comprehension of Being.¹⁸ It is this comprehension of Being (Seinsverständnis) which constitutes Dasein's ontological structure. `The comprehension of Being, in which we always antecedently move, belongs in the final analysis to the essential constitution of Dasein itself.¹⁹ This is the foundation of all further knowledge.²⁰ Even the most casual dealings with beings must somehow presuppose that we have grasped what Being is, else we would not know that they are.

We move always within an antecedent comprehension of Being. . . . We do not know what Being means. But already when we ask, `What is "Being",' we hold ourselves within a comprehension of the `is', although we cannot conceptually fix what `is' means.²¹

This first comprehension of Being, however, is vague and undermined;²² it is not grasped by a concept.²³ Somehow man has a pre-ontological comprehension of Being²⁴ which, though vague, is still an indisputable fact.²⁵ It is implied in every statement, even in every word we utter.²⁶ It is not, however, for all of its primordiality, grasped in a clear concept; if it were so grasped, it would then be a being, rather than Being itself.²⁷ In addition to being nonconceptual and prelogical (pre-ontological), the truth of Being thus comprehended is also pre-predicative,²⁸ that is, it must first have been achieved before any judgments or propositions can be formulated.²⁹ Every assertion, then, from the standpoint of ontological priority is strictly speaking, derivative.³⁰ Thus, the proposition with which logic is concerned may be one seat of truth, but it is certainly not the only one or even the most basic.³¹

But could one not object that in all of this insistence on a pre-logical, pre-conceptual grasp of Being in order to interpret Being Heidegger has been flagrantly guilty of the logical fallacy of the *circulus vitiosus*, that he presupposes a knowledge of what he is attempting to explain.³² He anticipates this objection³³ and concedes that in an existential analytic the circular movement can never be avoided³⁴ for the very good reason that the ontological structure of Dasein itself is circular.

The `circular' character of understanding belongs to the structure of sense and this phenomenon is rooted in the existential continuation of Dasein, in understanding which interprets. A being, which as to-be-in-the-world, is concerned with its own Being, has an ontologically circular structure.³⁵

Because of its very structure, or to be more precise forestructure,³⁶ Dasein is in its ontological constitution, a radical capacity for Being. `Comprehension, according to its existential sense, is Dasein's capacity for Being. . . .³⁷ The circularity, far from being an imperfection, is the very essence of Dasein's radical capacity to comprehend Being.³⁸ In the final analysis Dasein's grasp of Being is an irreducible fact, but certainly not a gratuitous assumption.³⁹

What Heidegger is attempting to do here is to overcome the scission of subject and object, of man from world; thus he conceives of man as existing in a profound unity with the truth of Being.⁴⁰ Being is not to be reduced to a product of his reason (Vorstellung), or produced by his activity as a subject. `Comprehension of Being, as here understood, never means that man, as a subject, possesses representation.⁴¹ Dasein's nature is to stand in the truth of Being, to be a field of openness for the clearing of Being. `Comprehension of Being means to say that man according to his essence stands in the openness of the project of Being.⁴²

Being addresses a command which is an evocation⁴³ to authentic thought, to which Dasein responds, or with which he enters into dialogue. `From ancient times in our history thought has meant: to respond (entsprechen) to the hail (Geheiss) of Being. . . .⁴⁴ This is not thought in the sense of a calculation of possible ways of manipulating objects,⁴⁵ but rather a letting be of Being, as allowing of Being to reveal itself.⁴⁶ Being needs its Da if it is to be illumined in such a way that it can appear.

But man is pressed into such a manner of being (ein solches Dasein), cast into the need of such Being, because the overpowering as such, in order to appear as prevailing needs a place of openness. The essence (Wesen) of human being (Menschseins) only reveals itself to us when it is understood from the standpoint of this need which is the need of Being itself.⁴⁷

Dasein is needed by Being in order that the voice which Being speaks⁴⁸ and which Dasein alone can comprehend be expressed and heard in authentic language which will hold it in openness.⁴⁹ Being deputizes Dasein to work, especially through authentic thought and solicitude for language, on the building of a world that will be a suitable dwelling place for human beings. This dwelling place which man needs is a place in which he can exist. It is a clearing, an open place; and since he is an `ex-isting' being it is a clearing where Being can manifest itself. But Dasein is, as it were, `co-sent' (Beschickten) with Being. Being clears a place for itself through Da-sein. Da-sein is the `there' or the field where, and by which, Being is `dis-closed'. Dasein is, then, Being's deputy (Beschickten), in that Dasein helps bring to pass a clearing for Being. All of these notions are expressed in the very rich text which follows.

As the deputies co-sent (Beschickten) by Being in the destining of Being (Geschick des Seins) we stand, and indeed according to our essence (Wesen), in the clearing of Being. But we do not just stand around idly with no claim on us in this clearing; rather we stand in it as ones claimed by the Being of being. As standers in the clearing of Being we are deputies of Being (Beschickten) set into a space freed for temporal activity (Zeit-Spiel-Raum). This means: we are needed in this field (Spielraum) and for it, needed to build and cultivate the clearing of Being, and this is to be understood in the manifold sense of: to preserve in trust.⁵⁰

It is, then, Dasein's nature to stand in the truth of Being and by `co-responding' to the voice of Being to help to bring to pass the truth of Being which is held in the openness of its disclosure by language. Hence, language is the only appropriate abode for man, wherein as an existing being, i.e., a being who can grasp Being in its truth, he may dwell. `Rather language is the house of Being and only by dwelling in language can man ex-ist (eksistiert) since in caring for the truth of Being he also belongs to it.⁵¹

Being sends itself to Dasein, and in sending itself clears⁵² and sets in order the place of its clearing.⁵³ But for the clearing to be such it requires a being who can perceive the light of the

clearing, protect and care for it; following Heidegger's own metaphor, it stands in need of forest guardians (Waldhuter).⁵⁴ According to his conception, man is not the despot, but the shepherd, of Being.⁵⁵ He is claimed⁵⁶ and needed to Being: 'The essence of man is assigned to the truth, because the truth needs man.'⁵⁷

Without Being's sending itself and clearing for itself a place of manifestation, there would be no revelation of truth, language, or history. Without a being uniquely open to the reception of Being's sending of itself, capable of being attuned to its silent voice and, have grasped it, of holding it in openness in language,⁵⁸ there would also be no revelation, language or history. Being and Dasein stand in need of each other.⁵⁹ Still in the sending of itself, in the revelation of itself as truth, the initiative is always Being's.⁶⁰

In this conception it can be seen that man has a unique dignity. He is not one entity among many, albeit different from the animal in virtue of his power of ratio. Rather he alone of all beings is open to Being, is the place where the truth of Being is revealed,⁶¹ and can comprehend Being in its truth. 'If the comprehension of Being did not come to pass man could not be the being which he is, even though he were fitted out with other powers, however wonderful.'⁶²

Thus, he no longer views his relationship to Being, to language, to thought, to the world in terms of so many instruments of exploitation.⁶³ From this perspective he is the guardian of Being's clearing,⁶⁴ rather than a despotic and sometimes capricious master. He has, to use Heidegger's expression, gained the poverty of the shepherd.⁶⁵

In conclusion, the phenomenological analysis of man which Heidegger has undertaken, which resulted in his conceiving of man as Dasein and in-der-Welt-sein, is most helpful to the Man-Nature problematic with which we are concerned. By these two related insights Heidegger attempts not only to bind man and nature so closely together that the 'and' in 'Man and Nature' becomes superfluous, but to undercut completely the position which makes possible the development of the problem.

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NOTES

1. On this point see the very interesting remarks of Wittgenstein in Friedrich Waismann: Wittgenstein und der Wiener Kreis, ed. B.F. McGuinness (Oxford: Blackwell, 1967), pp. 68-69.

2. For what is perhaps the best known of Carnap's criticisms of Heidegger see especially his article in Erkenntnis, II (1932), pp. 219-241.

3. The following editions of Heidegger's works and symbols will be used. Sein und Zeit (8th ed.; Tübingen, Niemeyer, 1957), SZ. Holzwege (3rd ed.; Frankfurt: Klostermann, 1957), HW. Einführung in die Metaphysik (2nd ed.; Tübingen: Niemeyer, 1958), EM. Über den Humanismus (Frankfurt: Klostermann, 1947), HB. Kant und das Problem der Metaphysik (2nd ed.; Frankfurt: Klostermann, 1951), KM. Vom Wesen der Wahrheit (3rd ed.; Frankfurt: Klostermann, 1954), WW. Was ist Metaphysik (7th ed.; Frankfurt: Klostermann, 1949), WM. Identität und Differenz (Pfullingen: Neske, 1957), ID. Vorträge und Aufsätze (Pfullingen: Neske, 1954), VA. Der Satz vom Grund (2nd ed.; Bern: Franke, 1953), SG. Was heisst Denken (Tübingen: Niemeyer, 1961), WD.

4. Johannes Hollenbach, S.J., Sein und Gewissen (Baden-Baden: Grimm, 1954), p. 22. See especially the excellent study by Paul Ricoeur on the meaning and scope of Heidegger's critique of subject-ism in the essay, "The Critique of Subjectivity and the Cogito in the Philosophy of

Heidegger," in *Heidegger and the Quest for Truth*, ed. with Introduction by Manfred Frings (Chicago: Quadrangle Books, 1968), pp. 62-75.

5. SZ, pp. 22, 45-46; HW, pp. 91-92. Cf. also William Richardson, S.J., "Kant and the Later Heidegger," *Phenomenology in America* (Chicago: Quadrangle Books, 1967), p. 132.

6. SZ pp. 24.

7. SZ, pp. 24, 25.

8. SZ, pp. 66, 89-101.

9. William Richardson, *Heidegger: Through Phenomenology to Thought* (The Hague: Nijhoff, 1963), p. 59, note. Cf. also Werner Marx, "Heidegger's New Conception of Philosophy: The Second Phase of Existentialism," *Social Research*, XXII (1955), 451-474.

10. Heidegger makes this point clear in a lecture given during the winter semester 1937-38. The fundamental perspective from which man must be viewed is in his relation to Being. This is contained in his letter to Richardson, *Through Phenomenology . . .*, p. xxi.

11. HB, p. 19.

12. SZ, pp. 196-197.

13. The translations are my own. I have provided the German text for comparison and this has also allowed me to handle the translation more freely, rendering what seemed to me to be the best sense of the text. 'Das Wesen und die Weise des Menschseins kann sich dann aber nur aus dem Wesen des Seins bestimmen.' (EM, p. 106).

14. SZ, p. 12; HB, pp. 15, 24, 35.

15. SZ, pp. 63-89, 102-130, 350-367.

16. SZ, p. 25.

17. 'die Griechen . . . in der vorphilosophischen sowohl wie in der philosophischen Daseinsauslegung das Wesen des Menschen bestimmten als *zoon logonexom*. Die spätere Auslegung dieser Definition des Menschen in Sinne von *animal phanomenalen Boden*, dem diese Definition des Daseins entnommen ist.' SZ, p. 165. Cf. also SZ, p. 48; HB, pp. 12, 13, 19, 21-22; VA pp. 72-74, 91, 94-95; SG, pp. 79, 126, 210; WD, pp. 24-28, 30, 66, 95-96; ID, p. 24; HW, pp. 60-61; EM, pp. 108, 134.

18. 'Der Grundzug des Daseins, das der Mensch ist, wird durch das Seinsverständnis bestimmt.' SG, p. 146.

19. 'Seinsverständnis, in dem wir uns immer schon bewegen, und das am Ende zur Wesensverfassung des Daseins selbst gehört,' SZ, p. 8 (Heidegger's emphasis).

20. SZ, p. 333.

21. "Wir bewegen uns immer schon in einem Seinsverständnis. . . . Wir wissen nicht, was 'Sein' besagt. Aber schon wenn wir fragen: 'was ist 'Sein'?' halten wir uns in einem Verständnis des 'ist' ohne dass wir begrifflich fixieren konnten, was das "ist" bedeutet.' SZ, p. 5; see especially SZ, pp. 6, 7, 51, 152; KM. pp. 204, 205.

22. SZ, p. 5.

23. SZ, pp. 4, 8, 315.

24. SZ, p. 197; see also SZ, pp. 15, 150, 196, 197, 314.

25. 'Dieses durchschnittliche und vage Seinsverständnis ist ein Faktum.' SZ, p. 5 (Heidegger's emphasis).

26. SZ, pp. 6-7; EM, p. 62; KM, p. 205. See also Fridolin Wiplinger, *Wahrheit und Geschichtlichkeit* (Freiburg/München: Alber, 1961), p. 151.

27. SZ, pp. 4, 5, 6; EM, p. 67.

28. SZ, p. 359.

29. SZ, p. 157; WG, pp. 12-12.
30. SZ, pp. 153-154. See also WW, pp. 12, 15, 16, 17, 25.
31. SZ, pp. 32-34, 153-160, 213-219, 223-326; WW, pp. 11-12; WG, pp. 11-15; N, II, pp. 74-75.
32. SZ, p. 152.
33. SZ, pp. 5, 7, 152, 153, 314.
34. SZ, p. 315.
35. `Der "Zirkel" im Verstehen gehort zur Struktur des Sinnes, welches Phanomen in der existenzialen Verfassung des Daseins, im auslegenden Verstehen verwurzelt ist. Sciendes, dem es als In-der-Welt-sein um Sein selbst geht, hat eine ontologische Zirkelstruktur.' SZ, p. 153. Cf. also Albert Chapelle, L'Ontologie phenomenologique de Heidegger (Paris: Editions Universitaire, 1962), pp. 132-133, 151-152; Hans Georg Gadamer, `Vom Zirkel des Verstehena', Martin Heidegger zum Siebzigsten Geburtstag (Pfullingen: Neske, 1959), pp. 24-34.
36. SZ, pp. 152-153.
37. `Verstehen seinem existenzialen Sinn nach das Seinskennen des Daseins ist. . . .' SZ, p. 153.
38. SZ, pp. 12, 314, 315, 337.
39. SZ, p. 5.
40. EM, p. 89.
41. `Seinsverständnis meint hier niemals, der Mensch besitze als Subjekt eine subjektive Vorstellung vom Sein und Dieses, das Sein, sei eine blosser Vorstellung.' SG, p. 146.
42. `Seinsverständnis besagt dass der Mensch seinem Wesen nach im Offenen des Entworfes des Seins steht. . . .' SG, p. 146.
43. Following the very suggestive translation of the word `heissen' by Richardson, Through Phenomenology. . . . SG, p. 596.
44. `Von altersher besagt unserer Geschichte Denken so viel wie: dem Geheiss des Seins entsprechen. . . .' SG, p. 147.
45. G, pp. 14-15; WM, pp. 47-48.
46. WW, pp. 14, 15, 18; VA, p. 211; WD, p. 123.
47. "Der Mensch is aber in ein solches Da-sein genotigt, in die Not solchen Seins geworfen, well das Uberwaltigende als ein solches, um waltend zu erschienen, die Statte der Offenheit fur es braucht. Von dieser durch das Sein selbst ernetigten Not her verstanden, eroffinet sich uns erst das Wesen des Menschseins." EM, p. 124.
48. N, II, p. 484. Cf. also WM, p. 50; WP, p. 36.
49. HH, p. 29.
50. `Als die im Geschick des Seins vom Sein Beschickten stehen wir, und zwar unserem Wesen mach, in einer Lichtung des Seins. Aber wir stehen in dieser Lichtung keineswegs unangesprochen herum, sondern stehen im inr als die vom Sein des Seienden in dessen Anspruch Genommenen. Wir sind als die in der Lichtung des Seins Stehenden die Beschickten, die in den Zeit-Spiel-Raum Eingernaumten. Dies sagt: Wir sind die in diesem Spielraum und fur ihn Gehrauchten, gebraucht, an det Lichtung des Seins zu bauen und zu bilden, im weiten vielfaltigen Sinne: sie zu verwahren.' SG, p. 146.
51. `Vielmehr ist die Sprache das Haus des Seins, darin wohend der Mensch ek-sistiert, indem er der Wahrheit des seins, sie hutend, gehort.' HB, pp. 21-22; cf. also HH, pp. 19, 25.
52. HB, p. 25; WM, pp. 14-15.

53. "Sein schickt sich dem Menschen zu, indem es lichtend dem Seienden als solchem einen Zeit-Spiel-Raum einraunt." SG, p. 129. On the meaning of Being's sending itself and clearing a place for itself see SG, pp. 108-109: 'Dem "schicken" besagt ursprünglich: bereiten, ordnen, jegliches dorthin bringen, wohin es gehört, daher auch einräumen und einweisen; ein Haus, eine Kammer beschicken heisst: in der rechten Ordnung, eingeraunt und aufgeräumt halten.'

54. HW, Prologue.

55. 'Der Mensch ist nicht der Herr des Seienden. Der Mensch ist der Hirt des Seins.' HB, p. 29.

56. N, II, p. 484.

57. 'Das Menschenwesen ist der Wahrheit ubereignet, weil die Wahrheit den Menschen braucht.' G. p. 65.

58. HW, pp. 60-61.

59. G, p. 65.

60. HB, p. 19. Cf. also Ingeborg Koza, *Das Problem des Grundes in Heidegger's Auseinandersetzung mit Kant* (Ratingen bei Dusseldorf: Henn, 1967), pp. 24-25.

61. WM, p. 14. Cf. also HB, p. 20; ED, p. 23.

62. 'Geschanhe das Verstehen von Sein nicht, der Mensch vermochte als das Seiende, das er ist, nie zu sein, und ware er auch mit noch so wunderbaren Vermogen ausgestattet.' KM, p. 205.

63. HD, p. 35; WM, p. 49; G, pp. 19-20. Cf. also *The Later Heidegger and Theology*, ed. James Robinson and John Cobb (New York: Harper and Row, 1964), pp. 20, 29.

64. WD, 85. Cf. also EM, p. 108.

65. HB, p. 29.1.

CHAPTER XIII
MAN AND NATURE IN CHRISTIANITY AND BUDDHISM
MASAO ABE

MAN, NATURE AND `NATURALNESS'

`Has man as man and the finitude of man in its positive aspect ever been taken seriously into consideration by Buddhist scholars? The extension of shujo (sentient being-hood) to man, animals and even to everything, as it is found in Dogen, makes this doubtful.¹ This question raised by Hans Waldenfels leads us to an examination of the problem of `man and nature' in Buddhism and of the Buddhist idea of `Naturalness' or jinen.

In the Buddhist way of salvation it is true that man is not simply or exclusively taken as `man'. Man is rather taken as a member of the class of `sentient beings' or `living beings' and further, as clearly seen in Dogen, even as belonging among `beings', living and non-living. This presents a striking contrast to Christianity in which salvation is almost exclusively focused on man as `man'. In Christianity it is taught that man alone, unlike other creatures, was created in the imago dei and thereby he alone can respond to the Word of God. The fall and redemption of nature takes place through and with that of man. This homocentric nature of Christian salvation is inseparably connected with Christian personalism in which God is believed to reveal himself as personal and in which man's encounter with God in terms of the I-Thou relationship is essential.

In Buddhism, however, there is no exact equivalent of this homocentrism and personalism of the Christian sort. The problem of birth and death is regarded in Buddhism as the most fundamental problem for human existence and its solution is the primary concern in Buddhist salvation. However, birth-death (shoji) is not necessarily taken up as a problem merely within the `human' dimension. It is rather dealt with as a generation-extinction (shometsu) problem within the total `living' dimension. This indicates the Buddhist conviction that, without transcending the generation-extinction nature common to all living beings, man's birth-death problem cannot be basically solved. Thus, it is in a non-homocentric dimension, the dimension common to all living beings, that the Buddhist ideas both of birth-and-death, i.e., samsara and emancipation from birth-and-death, i.e., nirvana, are to be grasped.

Further, by going beyond the `living' dimension to that of `being', Buddhism develops its non-homocentric nature to its utmost limits. This dimension of `beings', including both living and non-living beings, is no longer only that of generation-extinction but of appearance-disappearance (kimetsu) or being-nonbeing (umu). The `living' dimension, though transhomocentric, is of a `life-centric' nature that excludes non-living beings. The `being' dimension, however, embraces everything in the universe, transcending even the wider-than-human `life-centric' horizons. Thus, the `being' dimension is limitless, beyond any sort of `centrism', and is most radical precisely in terms of its non-homocentric nature. It is this most radical non-homocentric and cosmological dimension that provides the genuine basis for man's salvation in Buddhism.²

According to Buddhism man's samsara, i.e., succession births and deaths, is understood to be inescapable and irremediable unless one transcends homocentrism and bases his existence on the cosmological foundation. In other words, not by doing away with the birth-death nature peculiar to man nor by doing away with the generation-extinction nature common to all living

beings, but only by doing away with the appearance-disappearance nature, i.e., the being-nonbeing nature common to everything, can man's birth-and-death problem be properly and completely solved. Herein one can see a profound realization of that transitoriness which is common to man and to all other beings, living or non-living. This realization, when profoundly grasped, entails a strong sense of solidarity between man and nature. The story of a monk who, looking at the fall of a withered leaf from a tree, awakened to the transiency of the total universe, including himself, and entered the priesthood, bespeaks the compelling power of such a realization.

When transiency, as such, is fully realized and is thereby transcended in the depths of one's own existence, then the boundless dimension of jinen or 'Naturalness', in which both man and nature are equally enlightened and respectively disclose themselves in their original nature, is opened up for him. It is for this reason that referring to such familiar Buddhism phrases as 'All the trees and herbs, and lands attain Buddhahood' and 'Mountains and rivers and the earth all disclose their dharma-kaya (their essential Buddhahood),' I wrote earlier: 'Indeed, unless all the trees and herbs and lands attain Buddhahood together with me, I shall not have attained Buddhahood in the true sense of the world.'³ Here, the non-homocentric, cosmological emphasis of Buddhism is very conspicuous.

The non-homocentric nature of Buddhism and its idea of jinen, however, do not imply, as is often mistakenly suggested, any denial of the significance of individualized human existence. In fact, it is precisely the other way around. The very act of transcending homocentrism is possible only to a human being who is fully self-conscious. In other words, it is impossible, apart from self-consciousness on the part of human existence, to go beyond 'human' and 'living' dimensions and to base one's existence on the 'being' dimension. Man alone can be aware of universal transitoriness as such. Accordingly, the facet of transitoriness, common to all beings, turns into a problem for him, though not for other beings, and one to be solved by him as man. Now this self-consciousness is actualized only in an individual self, in one's own self. Further, the problem of birth and death is in its very nature the subjective problem par excellence with which everyone must cope by himself, alone. In this sense Buddhism is concerned in the deepest sense with the individual self, with the person, i.e., man as man.

In Mahayana Buddhism, as a preamble to the Gatha 'The Threefold Refuge' the following verse is usually recited:

Hard is it to be born into human life,
We now live it.
Difficult is it to hear the teaching of the Buddha,
We now hear it.
If we do not deliver ourselves in this present life,
No hope is there ever to cross the sea of birth and death.
Let us all together, with the truest heart,
Take refuge in the Three Treasures!

The first and second lines express the joy of being born in human form during the infinite series of varied transmigrations. The third and fourth lines reveal gratitude for being blessed with the opportunity of meeting with the teaching of the Buddha--something which very rarely happens even among men. Finally, the fifth and sixth lines confess to a realization that so long as one exists as a man he can and must awaken to his own Buddha nature by practicing the teachings of the Buddha; otherwise he may transmigrate on through samsara endlessly. Herein it

can be seen that Buddhism takes most seriously into consideration human existence in its positive and unique aspect. Thus, in this sense one may say that Buddhism also is homocentric.

However, for man to transcend homocentrism within his own individuality means for him to 'die' in the death of his own ego, for only through the death of his own ego is the cosmological dimension, the dimension of jinen, opened up to him. Only in that moment does he awaken to his true Self by being enlightened to the reality that nothing in the universe is permanent.

As regards the above discussion someone may raise this question: Does doing away with the distinction of birth and death, for instance, in the liberated consciousness actually 'do away' with these 'realities' themselves? By realizing impermanence as the essence of everything whatsoever is one thereby freed from its bondage, not only psychologically but also ontologically? To answer this question leads us to the crux of the problem. 'Doing away' with the distinction of birth and death means overcoming the dualistic view in which birth and death are understood as two different realities. From what position does one understand birth and death as two different realities, from the standpoint of life or death? Since it is impossible for one really to distinguish life and death as two realities by taking one of the two as his own standpoint, it must be done from a third position which is somewhat transcendent of both life and death. But such a third position is unreal because it is a position made by conceptualization through looking at life and death from a position external to them. Rather, one comes to Reality only by overcoming such a third position and its outcome, i.e., the 'realities' of life and death. In this overcoming, realizer and the realized are not two but one. Ultimate Reality is realized only in this way.

Strictly speaking, however, to attain Reality one should transcend not only the duality of life and death but also the wider dualities, i.e., the duality of being-nonbeing does one attain Reality, because there is no wider duality than that of being-nonbeing. Herein there is no 'centrism' of any sort at all and the limitless dimension of transitoriness common to all beings is clearly realized as such. The oneness of realizer and the realized is attained only through the realization of this universal transitoriness. Situating one's existence in the boundless dimension of being-nonbeing one realizes universal transitoriness as the only Reality, including himself in this realization. Reality is realized by him, who himself is a realizer of the Reality. This is an ontological, not psychological, awareness par excellence.

In Buddhism the non-homocentric and cosmological aspect is absolutely inseparable from its existential and personalistic aspect. Indeed, in Buddhism, one can be genuinely existential and personal only when his existence is based on the boundless cosmological dimension which transcends the human one. But this cosmological dimension is opened up, not objectively, but subjectively through one's existential realization of the absolutely universal transitoriness. The mediating point, or place of confrontation, of the cosmological and the personal aspects is the death of one's ego.

Buddhist salvation is thus nothing other than awakening to Reality through the death of ego, i.e., the existential realization of the transiency common to all things in the universe, seeing the universe really as it is. In this realization one is liberated from undue attachment to things and ego-self, humanity and the world, and is then able to live and work creatively in the world. 'Awakening' in Buddhism is never even for one instant ever so slightly other than, or separated from, the realization of universal transitoriness. The so-called Buddha nature, which in Buddhism is said to be inherent in everyone and everything as well, is simply another term for the realization of universal transitoriness or jinen in which every one and every thing disclosed itself as it truly is in itself. It is from this realization of jinen that the Buddhist life of wisdom and compassion begins.

MAN'S FINITUDE AND FAITH IN GOD

The above-mentioned question, raised by H. Waldenfels, concerning the Buddhist understanding of man and his finitude is, I hope, answered in the preceding section. `The extension of shujo (sentient being-hood) to man, animals and even to everything,'⁴ as Waldenfels expresses it, should not imply a mere one-dimensional expansion of one's standpoint beyond the human sphere, but, as stated above, a transcendence of homocentrism in the direction of the cosmological dimension through the realization of absolutely universal transiency. Moreover, this kind of transcendence can be achieved only by man, who alone of all beings is self-conscious. The transiency common to everything in the universe is clearly apprehended as what it is by man along through his uniquely subjective realization. In this sense, `The extension of shujo to man, animals, and even to everything' does not obscure the finitude of man but, on the contrary, makes it clear and unambiguous.

However, Father Waldenfels' question concerning the Buddhist understanding of man's finitude seems to me to be intrinsically related to another important aspect of our subject, namely, the issue of the direction of transcendence in Buddhism and Christianity.

In Christianity man's finitude is realized over against divine justice and divine love. `No human being will be justified in his (God's) sight by works of the law'⁵ and `they are justified by his grace as a gift, through the redemption which is in Christ Jesus, whom God put forward as an expiation by his blood, to be received by faith.'⁶ Man's finitude in the light of God's righteousness is realized as `death which is the wages of sin.'⁷ Accordingly, faith implies the death of the `old man' as well as the birth of the `new man' in Christ.

Insofar as the death of the human ego is essential to salvation no distinction can be made between Christian conversion and Buddhist awakening. In Christianity, however, because death is `the wages of sin' it is grasped within the context of man's personalistic and responsible relationship to God; due to his own injustice and sin, man can never be saved by his own efforts but only through faith in Christ, as the redeemer, i.e., the incarnation of God. The divine-human relationship in Christianity is thus essentially vertical, with Christ, the mediator, originating in God as the transcendent or supernatural reality. Thus, in the last analysis it is an irreversibly vertical relationship with God as the superior. Even the unio mystica in which the soul of man joins to God in an indescribable experience is not altogether an exception. This irreversible relationship between man and God is inseparably connected with man's deep realization of his own finitude.

Viewed from this Christian standpoint the Buddhist understanding of man's finitude may not appear to be clear enough. In Buddhism man's death is not seen as the result of `sin' in relation to something transcendent or supernatural, such as divine justice, but only as one instance of that transiency which is common to all things whatsoever in the universe. Again, because Buddhism emphasized that everyone can attain Buddha nature without a mediator, man's finitude seems not to be properly realized.

Does this Buddhist position, however, indicate a failure in its understanding of man's finitude? It is clear that Buddhism, especially its original form, did not admit the supernatural in the form of God as creator, judge or ruler over the universe. This is precisely because Buddhism is convinced that man's finitude is so deep that it cannot be overcome even by the supernatural. Now this conviction is a pivotal point for Buddhism, and in this connection Buddhists would put this question to Christianity: Is man's finitude a kind of finitude which can be overcome by faith in God? What is the ground for such a faith?

Dependent origination, a basic idea in Buddhism, indicates that there is no irreversible relationship even between man and 'God', nature and the supernatural, the secular and the holy. This is especially clear in Mahayana Buddhism which stresses soku as seen in its familiar phrasing 'samsara as it is is nirvana'. Accordingly, 'Naturalness' or jinen is not something merely immanent nor a counterconcept of the supernatural but implies the total negation of the supernatural or transcendence. Thus, as I previously wrote:

It (Naturalness) does not simply mean naturalism as opposed to personalism. . . . The naturalness meant by jinen is conceived to underlie both the natural and the supernatural, creature and the creator, man and God, sentient beings and so-called Buddhas, as their original common basis. In the jinen all things, including man, nature and even the supernatural, are themselves, and as they are.⁸

Only in the realization of this kind of jinen can one become a real person, i.e., an awakened one who has compassion and wisdom for all things in the universe.

Christianity transcends man and nature in 'God' who, being the God of love and justice, is understood to be supernatural. The Christian loves his neighbor as himself, in accordance with the first commandment to love God who is his saviour from sin, with his whole heart. Buddhism, on the other hand, transcends man and nature in the direction of 'Naturalness' or jinen which is identical with Buddha nature or suchness. Thus, the 'direction' or 'location' of transcendence is not the same in Christianity and Buddhism, although the death of the human ego and the realization of the new man are in each case essential to transcendence.

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NOTES

1. Hans Waldenfels, "A Critical Appreciation," *Japanese Religions*, IV, No. 2 (1966), p. 23.
2. For more detailed discussion in this connection see Masao Abe, "Dogen on Buddha Nature," *Eastern Buddhist*, New Series, IV, No. 1 (1971), pp. 28-71.
3. Masao Abe, "Buddhism and Christianity as the Problem of Today," *Japanese Religions*, III, No. 3 (1963), p. 18.
4. Waldenfels, loc. cit.
5. 3 : 20.
6. Ibid., 3 : 24-25.
7. Ibid., 6 : 23.
8. Abe, loc. cit., "Buddhism and Christianity," p. 28.

CHAPTER XIV
A CHARACTERISTIC OF INDIAN PHILOSOPHIES AND ITS
INTERPRETATIONS

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This paper proposes to state and to interpret a characteristic of the philosophies which flourished in India in ancient and medieval times and which are studied with care even today, not only by orthodox scholars and Indologists, but also by avid students of philosophy. The task is undertaken in the belief that it would make the meeting of metaphysicians from different countries more meaningful and might facilitate such dialogues as would be rewarding to those who study, teach and write on these philosophies.

Two Misinterpretations

Students of these philosophies, though impressed by their astonishing richness, find to their dismay that not infrequently they are either over or underestimated. Some scholars seem to hold that almost all the interesting and intriguing questions of philosophy were asked and finally answered by the ancient and medieval thinkers of India, that the task today consists simply in understanding them. Obviously, these scholars overestimate these philosophies. Others, in view of the fact that science was either non-existent or in an incipient stage when these philosophies flourished and also because they were heavily loaded with myths and religion, think that they have ceased to be of importance and accordingly are hardly worthy of being studied by the students of philosophy today. Clearly these thinkers underestimate the philosophies.

An honest student of philosophy cannot accept either of these views. He cannot fail to see that they not only are not in keeping with facts, but are the results of a failure to appreciate the critical character of philosophical activity that can exist and assume a form only in a society. The thinkers of the first group are unrealistic in that the ancient and the medieval philosophers did not do one kind of philosophy. Indeed, they built mighty systems of philosophy, one of which was not compatible with another. Accordingly, even if they had asked all the intriguing questions, they did not give unanimous answers. There is no single philosophical system of ancient and medieval India and the scholars who overestimate these philosophies are quite aware of this. Nevertheless, it appears from what they say and write that the system of philosophy they study, to which they subscribe and according to which, in some cases at least, they govern their life even today is the only true philosophical system, and that the other systems either articulate this truth in varying degrees or are instrumental in understanding the glorious truth embodied in the system they favor. In other words, in the opinion of these scholars, of all the various systems of ancient and medieval times only one was a system of philosophy, the others being just ideologies. No honest student of philosophy should think in this way.

These scholars are also not quite aware of the fact that philosophizing is a social phenomenon. Though it takes place in the superstructure of a society, it is conditioned by the substructure. Hence, because in contemporary times the social structure has changed, these philosophies, at least in the way in which they were formulated in ancient and medieval days, do not have even a *prima facie* claim for acceptance or careful consideration by students of philosophy. In other words, reformulation and considerable critical analysis is required by this change.

Similar observations are applicable to the thinkers of the second group. They do not seem to be aware of the fact that the philosophers of ancient and medieval India did not do one kind of philosophy only and that one may find in ancient and medieval India traces of the kinds of philosophies done in contemporary times. This is not said in order to deny progress but only to assert that philosophical thinking, whenever it functions freely, cannot be content with one kind of philosophy. Depending on the experience and preferences of thinkers it may take a multiple--if limited--number of forms. Again, some of these thinkers do not seem to have a clear idea of the social character of philosophy. They identify the substructure with the economically productive class and thus fail to see how the entire society by its sanctions, approved and graded values, etc., functions as the substructure conditioning philosophical activity. To a degree this substructure, while evolving, retains an identity; accordingly the new is hardly ever bewilderingly new and the gap between the past and the present is never total.

One should not, therefore, either overestimate or underestimate the past philosophies of India. An honest student of philosophy would do well to study them and to link them up with the contemporary ones. If he be an Indian he should seek his identity and a deeper understanding of his times and society in such a critical, reflective and interpretative study.

When one peruses the works of the leaders of contemporary Indian thought and culture like Bankimchandra, Tagore, K.C. Bhattacharyya, S. Radhakrishnan, Sri Aurobindo, Swami Vivekananda, Jawaharlal Nehru, Mahatma Gandhi, etc., he finds this to be precisely the kind of work they did or were seeking to do. Most of them, however, were not university men and were hardly interested in seeking their identity in a metaphysical enterprise. It is for us, therefore, who are actively engaged in teaching and research in the universities to take up this task. We are in need of a deeper understanding of the metaphysical ideas handed down to us from the past by assimilating them with the ideas of metaphysicians from different countries with different backgrounds and traditions. Such an understanding presupposes a dialogue which in the last resort is a give and take activity of the rational side of our being. Accordingly, this paper proposes to state and interpret one characteristic of the past philosophies.

Philosophy as System

The characteristic we propose to state and interpret is that in India philosophies developed as systems. This is well-known but its import or the interpretation we intend to give it may not be. Besides now-a-days philosophers are sceptical of systems. They prefer to treat a concept in isolation; when they write they take care that, like a short story, their paper have a beginning, a middle and an end. That this is hardly satisfactory can be clarified by an analysis of the systematic characteristic of Indian philosophies. Besides, Indian philosophers themselves mislead us on this point. Every system-builder at first formulates a theory of pramanas--a theory on the estimation of evidences--and proceeds to found his metaphysical theory upon that. This creates the impression that the theories of evidences as formulated by the Indian philosophers are prior to, and independent of, the metaphysical theories they hold. Actually, this is not the case. The theory of evidence as formulated by one system differs from that of another precisely because their metaphysical theories differ. This would be evident to anyone who would read these theories, as it were, between the lines. As the author has argued the point in another paper, it need not be dwelt upon here. Rather, in order to spell out the point that metaphysics occupied the central position in Indian philosophical thought, one question will be considered briefly.

The question concerns the nature of darkness. Obviously, one who has not read Indian philosophy would not treat it as a philosophical question. But Indian philosophers gave considerable attention to it and their treatment makes it abundantly clear that they held it to be an important philosophical question.

To make the point the Nyaya and the Advaita answers will be noted. Thus, while the Nyaya philosophers consider darkness to be a negative fact, the Advaitins consider it positive; and the point of interest is that their views are integral parts of their systems. Thus, a Nyaya philosopher cannot accept the proposition that darkness is a positive fact for the following reasons:

- (a) If it be a positive fact, it is also a perceived positive fact having qualities.
- (b) Accordingly, it is a compound substance which occurs, ceases to occur, and is divisible.
- (c) If it be divisible, then when divided it should leave behind fragments.
- (d) But it does not leave behind fragments.
- (e) And so either the being of darkness is instantaneous, for as the Buddhist philosophers argue an entity with instantaneous being may be destroyed but may not leave behind any fragment, or it is not a divisible compound substance that occurs and ceases to occur, i.e., it is not a positive fact.
- (f) But the theory of instantaneous being is counter intuitive and unacceptable.
- (g) And so darkness is not a positive fact.

Thus, the Nyaya theory of darkness is an integral part of the system. The same can be said of the theory of the Advaitins, though they would not argue the proposition that darkness is a positive fact in such a direct way. Nevertheless, their philosophy would be injured if they do not hold it to be so. They hold that ignorance is positive and make attempts to bring out one of its aspects by comparing it with darkness. That is, consciousness which is opposed to ignorance manifests its object by tearing the cover of ignorance, just as light which is opposed to darkness illumines objects by tearing the cover of darkness. They take the cover in both cases literally and are quite clear that language or metaphor is not misleading them. Their metaphysics does not permit them to understand the cover of ignorance metaphorically, that would amount to the position that ignorance is absence of knowledge or consciousness, i.e., a negative fact. But if ignorance be a negative fact it would not play the role their metaphysics assigns it, for it would then neither cover nor be a material cause of the empirical world. Hence, they take the expression 'covered by ignorance' literally. Similar considerations are behind their taking the expression 'covered by darkness' literally. In other words, of the various evidences they produce in favor of the proposition that ignorance is a positive fact, one is inferential, which in the opinion of the Indian logicians requires an instance that yields and confirms the grounding proposition. In the case of the inference under consideration such an instance is provided by darkness. That is, light illumines an object by destroying the darkness that covered it; so whenever an object is manifested, whether by light or by consciousness, the manifestation is preceded by the destruction of the positive cover. Thus, either darkness is a positive fact or the proposition on which the inference under consideration rests is instanceless and so groundless. Thus, the Advaitins' treatment of darkness is an integral part of their general philosophical or metaphysical system. In other words the question of the nature of darkness is philosophical as the answers to this question are integral parts of the metaphysical views held by the Indian philosophers. Their treatment of the being of darkness was not that of the scientist but of the metaphysician.

System and Metaphysics

Thus, the philosophies in India developed in the form of systems in which metaphysical doctrines occupied the central place. Why did they develop in this manner? The obvious answer seems to be: its subject matter. That is, the subject matter of metaphysics may be said to be all that is; and in view of that fact they form a system. Hence, the science of metaphysics cannot but be a system. It should be noted that Indian philosophers would have stated the subject matter of metaphysics in a slightly different way. Instead of saying that metaphysics is the science of all that is they would have said that it is the science of all that is man. In other words, for them man epitomizes the universe, or the microcosm is the macrocosm. To know man is to know all that is. The purpose or prajojana of philosophy was said to be liberation, and an essential condition for attaining liberation was thought to be knowledge of the proper being of man. To know man fully one should know what he is in essence and also in relation to the universe in which he is, so to say, where and how he suffers. In short, the science that seeks to know all that is man also seeks to know all that is, and metaphysics is primarily this science of the proper being of man. This being the subject matter of philosophy, philosophy cannot but be cultivated in the form of a system.

Though the above answer is quite reasonable, I would propose a different, though not incompatible answer which in my judgment is equally reasonable. In brief, it lies in the nature of a philosophical belief. In other words, whenever we have a philosophical belief we have a cluster of such beliefs, and they are of diverse kinds: some logical, some epistemological, some ethical, some religious, some ontological, some of no exclusive type, and others such that they cannot be labelled. This can be corroborated by an immanent inspection of such beliefs. Beliefs forming a cluster are not unrelated, but are, so to speak, parts of a whole or system. The system, however, has a character of its own. It is not deductive; one cannot hope to exhibit the character of the system by picking up one or two beliefs to be treated as axiomatic and then, by some accepted or formulated rules of deduction, obtain the other beliefs forming the system. This should be evident to anyone who would peruse any such system and to one who does not accept a particular system it appears that the arguments of its advocates move in a circle. Thus the critics of the Vaisasika system argue that their theory of universals presupposes their theories on inherence, substance, qualities and action; that their theories on substance, quality and action presuppose their theory of universals; and that their theory on inherence presupposes all these theories. In short, philosophical reasoning is in a way circular. This cannot be cited as a basis for denouncing metaphysics and embracing scepticism, though it substantiates the result of immanent or phenomenological inspection of metaphysical beliefs, namely, that the beliefs form a cluster with a structure though the structure is not deductive.

What precisely is the structure? That the beliefs are closely connected is beyond reasonable doubt, but what precisely is this connection? To answer that question it is necessary to consider of what sort these beliefs are and how they obtain their structure.

These beliefs are not of the ordinary kind, but are firm convictions or dogmas in the original Greek sense of the word, as Professor Zahner states in another context. They are as sure and certain for the individual who holds them as is knowledge; for him the distinction between such belief and knowledge ceases to be real. Further, one acts according to these beliefs and this action in some sense lends structure to these beliefs. Hence, it cannot be the case would one hold a set of philosophical beliefs and not live in accordance with them. If his actions are not in keeping with his beliefs, if the relation of vyaghata, as the Indian logicians put it, obtains

between his beliefs and his actions, then he really does not hold the beliefs, though he may say that he does. At any rate, unless philosophy be in a reciprocal or dialectical relation with life, which it shapes and by which it is shaped, it does not deserve to be called philosophy.

Because Indian philosophers were quite aware of this, for them philosophy was not a mere intellectual pastime or adventure. Read carefully, the conclusion is irresistible that they philosophized as they were in quest for identity--their philosophies represented what they were.

Today we find that they do not satisfy our quest if we take them literally or exactly in their original form. We feel the need to reformulate them and hence to be in dialogue with the types of philosophy that flourished elsewhere and are more closely associated with the recent developments in science, technology and the social economy. It is our hope that such a dialogue can take place in today's troubled world where we are desperately in search of our identity and that we can find at least the path along which we should move.

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CHAPTER XVI
SPIRITUAL EXPERIENCE AND METAPHYSICAL
INTERPRETATION

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The aim of this paper is to reflect, on a meta-level, upon the basic intellectual process in traditions of thought which draw upon spiritual experience as immediate evidence for metaphysical affirmations about reality and man's relation to it. By 'spiritual experience' I mean in general the experience, at its deeper levels, of the inner life of the human psyche, spirit, soul, or self--however this be expressed--where, beyond the dimensions accessible to ordinary sense experience, reflective thought and rational argument, it experiences or claims to experience various modes and levels of intuitive awareness of reality and its own relation to it. The most intense level of such experience is, of course, what in both East and West has traditionally been called 'mystical experience' or its equivalent. What follows will concern this level particularly, since it has always been one of the most profound inspirations and challenges to metaphysical interpretations of reality.

SPIRITUAL EXPERIENCE AS EVIDENCE FOR METAPHYSICS

In order to avoid sterile technical disputes about the exact nature and limits of mysticism I have chosen the more general term of 'spiritual experience', to distinguish it from both sense experience and the process of reflective thought and rational inference carried out through abstract concepts and conceptual--linguistic frameworks. In a word, then, I am concerned with a thought process which is common to certain great traditions of thought, of which not a few are represented here. It passes directly from a profound--and, let us concede, authentic--spiritual experience to metaphysical articulation and interpretation as part of a total metaphysical framework or systematically articulated world view.

Reflecting on this process is relevant to the theme, 'Man and Nature', for solutions to its problems at any level will frequently be commanded by the dominant spiritual experience that lie at the roots of a metaphysical tradition.

The thought process directly from spiritual experience to metaphysical articulation is found to some extent in certain traditions of the West, such as Neoplatonism in both its non-Christian and its Christian strands, and various existentialist such as Kierkegaard, Marcel, Buber and possibly others. It is not, however, the more usual path in Western thought, which ordinarily draws its evidence from the more publicly available dimension of man's relations with the material cosmos and human social community, and argues to the ultimate conditions of possibility or intelligibility of such data. The more characteristic, though by no means exclusive, path of the great Eastern traditions has been from inner experience to a metaphysical articulation and interpretation of reality flowing from and commanded by such evidence.

This has been one of the glories of the Eastern traditions, especially those of Hinduism and Buddhism. I do not in the least question the validity and fruitfulness of these traditions for what might be called 'spiritually grounded metaphysics.' What I would like to do is to call attention, for common critical reflection, to the special problems in the use of such a method either by Eastern or Western thinkers. The central problem might be phrased as follows: Can any spiritual experience, however profound and authentic, guarantee any particular articulation and

interpretation of this experience in metaphysical terms, so as to appeal to it as conclusive and incontrovertible evidence for the truth of such metaphysical affirmations?

As one example let us take as our point of reference some of the great Upanisadic spiritual experiences of the identity (or non-duality) of the self with the Atman and the Brahman. These experiences reach metaphysical formulation in the Upanisads themselves, in such expressions as 'The Brahman is all this and all that,' 'The Brahman is One without a second,' and 'That art Thou' (Tat twam asi). There are similar expressions in the later Advaita or Non-Duality Vedanta tradition. Others insist that the above Upanisadic statements do not have metaphysical, but only practical spiritual significance. Another example would be the thought of Sri Aurobindo, perhaps the outstanding philosopher-mystic of India in the twentieth century, who claims to have experienced the higher states of consciousness of the Over-Mind or Super-Mind and from this experience draws metaphysical affirmations about the unity of all things. His followers stress that his is a metaphysics drawn, not from abstract speculation, but from direct spiritual experience.

One could draw similar examples from Buddhist literature, which so often affirms that the one Buddha-nature is in, or actually is, all things. Hence, our distinct limited selves as they appear to us on the level of unenlightened experience already are one Buddha-nature, except that we are not yet aware of what we are.

Further, such appeals to spiritual experience are relevant to discussions in comparative metaphysical traditions. The Judaeo-Christian inspired creation metaphysics views creatures as having their own distinct being, though received from God as Creator. The Upanisadic inspired non-dualist metaphysics views all finite entities as held within or reducible to the one being of the Brahman, who alone truly is. In comparing the two the experience of Arjuna in the Bhagavad-Gita can be cited as the basis for arguing that for someone in this spiritual tradition who had experienced his oneness with the Brahman, as had Arjuna, the experience rules out a creation metaphysics maintaining the distinct being of creatures outside of God. The non-duality metaphysics is stated as a direct fruit of this profound experience and supported by the latter as convincing evidence, so that to reject the metaphysical conclusions drawn from it would be to cast doubts on the experience itself.

ALTERNATIVE METAPHYSICAL FRAMEWORKS ALWAYS POSSIBLE

This is the thought process with which I am concerned here. It has been called 'a metaphysics of spiritual experience,' that is, a process of thought which passes directly from inner spiritual experience to metaphysical affirmation, based on the latter as evidence.

Now the position to be defended here is the following. On the one hand, authentic spiritual experience, especially at the most profound and intense mystical level, can indeed be a most rich and fruitful source of inspiration and evidence for metaphysical propositions and for a metaphysical world view. This has been shown so clearly in certain of the great spiritual-metaphysical traditions of both East and West that there is no need to argue it further here. On the other hand--and this is the main point of the paper--no direct passage is possible from an inner spiritual experience, no matter how authentic and profound, to a metaphysical affirmation such that the experience can provide conclusive evidence to ground this metaphysical affirmation as opposed to all others. In a word, there is no direct and unambiguous passage from inner experience to metaphysical articulation.

My reason for this assertion derives from one of the most decisive contributions of contemporary epistemology, the theory that there are always alternative conceptual-linguistic frameworks for expressing any human experience of reality.¹ By this I mean, first, that no immediate or unmediated one-to-one correlation is possible between an experience of reality and a linguistic term or proposition taken by itself. The meaning of any term or proposition is always dependent on, and hence mediated by, a whole interrelated conceptual-linguistic system or field of meaning. This is true for an ordinary language statement; it is the more true for a statement in a metaphysical sublanguage. A proposition can thus have meaning and truth--or falsehood--not nakedly by itself but only within such a field or framework of meaning. Accordingly propositions can agree with or contradict each other only if they are situated within the same conceptual-linguistic framework, although it is possible to translate them more or less perfectly from one framework to another. Neither contradiction nor agreement is possible between propositions in different frameworks unless they are first translated into some common framework.

The second implication of such a framework theory of meaning and truth is that there is always in principle, either existing or possible, some alternative framework for expressing any given experience or contact with reality. Such alternative frameworks as a whole are neither true nor false but only more or less adequate for expressing the experience of those using them. Reality itself is inexhaustibly rich, if not infinite, in depth, fineness of differences, and complexity of interrelations. A human conceptual-linguistic scheme which can be learned and useful must be so limited in what it can explicitly notice and distinguish at any one time, that no human classification or scheme of categories can ever claim to be the only valid way of articulating either the seamless robe of reality or even the richness of our direct experience thereof.

One can indeed argue rationally over the adequacy of a given framework in terms of some larger common framework, nevertheless such questions of adequacy are not simply reducible to questions of truth or falsity. Further, and this is the crucial point, such questions of the adequacy, either of the framework as a whole or of the choice of terms within a framework, cannot be settled directly by an appeal to the experience itself, since they involve the complex interdependence of so many concepts and terms in a unified field of discourse. Mediation by the critically reflective rational and discursive mind is indispensable.

From this it follows that what is in itself roughly the same or a very similar inner experience can be validly expressed in two quite different metaphysical frameworks, even within the same general ordinary language system and even at times using the same words. Since the experience itself genuinely supports and provides good evidence for, while at the same time transcending in richness, each of the metaphysical articulations or interpretations in which it has been incarnated, appeal to the experience alone cannot settle the issue between them. Thus the supreme mystical experience of oneness of the soul or of deeper self with the ultimate Ground of being, however one expresses it, seems very similar in most of the great Eastern and Western spiritual traditions. Yet it would appear to be validly expressed in several different, irreducible, and even apparently irreconcilable or contradictory ways, either as unqualified oneness in both consciousness and being, or as oneness in consciousness with duality in being, or as non-duality in being, or in other irreducible ways, some undoubtedly not yet specified. The same should be said in the case of the relations in depth of human selves to one another and to cosmic nature as well.

DIFFICULTIES AND OBJECTIONS

Having said this much, I would hasten to add certain clarifications and qualifications to avoid misunderstanding. First, I am not merely saying that all deep inner experiences contain an ineffable element that defies any adequate positive expression in language. Most traditions agree on this; there is no argument here. But this does not deter them from drawing from their experiences both some very definite negative metaphysical conclusions such as non-duality or non-identity, and some positive conclusions as to the relation of other things to Ultimate Reality. My application of the alternative framework theory would partially relativize, not merely positive metaphysical articulations of the nature of Ultimate Reality and our relation to it, but all metaphysical interpretations, whether negative or positive. The so-called 'negative theologies', in order to give meaning to their negations, involve framework decisions outside of the experience no less than do the positive theologies for what may seem to others their incautious affirmations. All are together in this.

Second, my position does not imply that spiritual experiences can provide no good evidence at all for metaphysical affirmations. On the contrary, I believe that they can be very powerful guides in illuminating and supporting metaphysical conclusions. In certain cases appeal to the experience itself can effectively rule out some metaphysical assertions or a whole framework of expression as to ill-adapted or alien to the type of experience that it could not help but betray it. But from the fact that experience can serve as a touchstone to rule out certain metaphysical interpretations it does not follow that it can unambiguously, exclusively and positively guarantee any one metaphysical articulation against all others.

Third, it does not follow that it is impossible for the human mind to transcend all conceptual-linguistic frameworks or that it is always imprisoned within its own frameworks and thus inescapably trapped in the relativity of all frameworks. The mind certainly can and does transcend any and all frameworks in flashes of intellectual or spiritual intuition or insight, and a fortiori in the deeper states of mystical ecstasy. It is this power which enables the mind to know its own self as the source of its actions, to judge the limitations of the very frameworks it creates or uses to express itself, to improve and correct them when necessary and to translate from one to the other when passing from culture or language system to another. Yet, despite this power of transcending its own frameworks by intellectual insight, the mind is still bound to clothe or incarnate these insights in some particular cultural framework of expression and interpretation. This at once becomes limited and perspectival and, therefore, in principle allows of alternative modes of expression.

It remains true that the mind can, by imbuing whatever framework it uses with the living and transcending act of insight, control and correct the inadequacy of the expression through its own inner lived understanding of what it intends when it so expresses itself. Moreover, by employing various non-linguistic devices, it can attempt to set up a spiritual resonance in others which will evoke in them also a similar act of insight transcending the limitations of the framework used as a vehicle for expression. The shared insight or experience can then safely use the same framework of expression and metaphysical articulation. But the fact that the experience does unquestionably guide and inspire the expression does not thereby give one the right to impose this particular articulation or interpretation on everyone else as the only possible one allowed by the experience.

Therefore, I would venture to say that no metaphysical term or proposition can be uniquely and incontrovertibly dictated by an experience itself as an immediate and uninterpreted transcription of that experience. All such expressions must pass through the mediation of their

relation to a whole interrelated network or framework of meaning and language before they can take on any precise meaning of their own. Hence, they are subject to criticism at this level without in any way impugning the authenticity of their experience.

This introduces a further question. Does this experience exist first in its own purity and then seek expression through some framework of meaning and belief? Or, on the contrary, is the experience in which the person lives, so that the experience itself and the framework mutually influence or condition each other. In a word, might there be no pure pre-framework experience? There is much truth in this proposal although it should not be over-extended. The mutual influence must be left as a flexible and growing relationship, not taken as a rigid and fixed one. This is another reason why it is not possible for a spiritual experience to provide an incontrovertible guarantee for a particular metaphysical expression of that experience. The framework of expression may have already modified somewhat or creatively entered into the texture of the experience itself, predisposing one to notice or be open to certain facets while overlooking or underplaying others so that they even sink below explicit consciousness.

This raises the fascinating and difficult epistemological question of the so-called 'myth of the given'. Is there ever any pure given in human experience or are not all experiences and so-called immediately given facts always in some degree 'theory-laden', that is, already enveloped in some prior theory or theoretical horizon? We will not enter further into this forest here. In any case, the position developed above would still hold even if there were a pure pre-theoretical or pre-framework experience. I suspect that one comes close to this in the most profound mystical experience, though this, too, is very open to discussion.

When I first expressed these ideas in the Oriental Seminar at Columbia University, New York, they awakened considerable resistance from a number of scholars from different traditions as excessively relativizing and emasculating the power and validity of any expression of religious experience on experiential metaphysics. The strongest opposition, however, came not from the Hindus but from the Buddhists present. They claimed that the whole point of Buddhist spiritual training was finally to break through and get beyond all conceptual-linguistic frameworks in order, as they put it, to 'see reality as it is in itself,' that is, as the 'pure Thatness permeating all things.' Yet, that precisely illustrates my point. I have no wish to question that at a certain level of spiritual development one can break through all frameworks to a kind of direct contact with reality; I accept such an experience as authentic and somehow communicable or able to be evoked in others indirectly. What I am insisting upon is that any metaphysical expression of such an experience immediately takes on the relativity of some conceptual-linguistic framework. Hence, it cannot impose itself as a uniquely authoritative expression or interpretation of what it means to 'see reality as it is in itself' (note how theory and framework-laden are the terms of this very statement) or what the content of such a vision is. Hence, neither the somewhat elusive expression 'pure Thatness or Suchness' nor even the phrase 'to see reality as it is in itself' can be metaphysically innocent transcriptions of the experience. Therefore, neither can they impose themselves on all who accept the authenticity of that experience.

This leads us finally to the inevitable paradox. On the one hand, it is quite possible for two serious and spiritually sensitive scholars in different traditions to recognize intuitively in a flash of intellectual insight the profound similarity if not unity behind two spiritual experiences, or religious traditions (usually only in their deeper experiential dimensions, rarely in doctrines or theology), or even metaphysical doctrines. On the other hand, they could still find it impossible to clothe this common insight in any form of expression acceptable to both. This is the fatal flaw in all the attempts such as that of Aldous Huxley in his *Perennial Philosophy*, of Frithjof Schuon

in his *The Transcendent Unity of All Religions*,² and other similar efforts, to actually formulate the unity that transcends all the existing frameworks of expression. Any such formulation inevitably slips over into a veiled form of some already existing framework (which usually turns out in fact to be a Hindu formulation).

Understandably, such tradition-transcending formulations will not be acceptable on all points to all of the groups being thus transcended, and a truly new framework of expression almost certainly would not be acceptable in some way to any of the participants. The point is, therefore, that such underlying unities can be seen as one, but cannot be said as one. Even the truth of such a statement could be seen by the mind, but probably could not be said in any way acceptable or satisfactory to all. The bridge to the unities beyond frameworks can be crossed only by sympathetic insight, not by language itself, save in indirect and evocative ways.

Such a situation may seem to some a surrender to radical scepticism and relativism with regard to all metaphysical formulations and interpretations. To me, it seems rather an invitation and indeed a condition of possibility for a truly positive and fruitful dialogue between thinkers from different traditions.³ If there were an immediate passage from a spiritual experience to one privileged metaphysical expression or interpretation of it, metaphysical differences purporting to stem from such experience would constitute radical impasses beyond which further discussion could not go. It is not possible to argue with someone's experiences; one either does or does not accept them.

If there is no such direct passage from experience to metaphysical expression, moreover, and if experience always allows for alternative metaphysical expressions, then the way is left open: (a) to accept the great spiritual experiences in different traditions as perfectly authentic, no matter how differently expressed in apparently contradictory metaphysical terms; (b) to be free, nevertheless, to argue and discuss the relative merits of the metaphysical frameworks and expressions in which these experiences are clothed in each tradition; and (c) perhaps even to creatively adjust and adapt the latter to incorporate the strengths of each other, since there is no necessary link between the experience and any one mode of expression.

It follows also, given this provisory and always revisable link between experience and expression, that the mutual sharing of experiences at the deepest level by those in different traditions who possess some metaphysical sophistication can provide a dynamic stimulus towards the creation of richer metaphysical syntheses on a higher level of generality. At least it could stimulate cooperative meta-language analyses which would map out the analogous roles of certain metaphysical structures of thought and expression which on the surface appear irreconcilable.

Finally, I do suspect, however, that there are a small number of basic ontological situations or relations which can be experienced in depth but which resist in principle any common metaphysical formulation or interpretation. My list would include: (a) the relation between finite entities, or appearances if you will, and their Ultimate Ground or Source; (b) the mode of ultimate union between the human soul, spirit or deeper self, and its Ultimate Ground or Ultimate Reality itself--this would include the relation between 'divine' omniscience, omnipotence and immutability, on the one hand, and human freedom on the other; and (c) the relation between mind and reality. Whether one includes, as a function of one or more of the above, the relation of man's self at its deepest level with other selves and also with the material cosmos or cosmic nature as a whole is perhaps the basic issue for this entire set of papers.

New York, USA

NOTES

1. Cf. my own Presidential Address discussing this problem, 'On Facing up to the Truth about Human Truth', Proceedings of the American Catholic Philosophical Association, XLIII (1969), 1-13, with references to contemporary discussions.
2. (New York: Harper and Row, 1975).
3. Cf. the fine discussion by Jacques Cuttat, *The Encounter of Religions* (New York: Desclée, 1961).

CHAPTER XVII
CAUSALITY AND CREATIVITY
ELIOT DEUTSCH

Most contemporary analyses of causation are based on, or at least take as their starting point, Hume's analysis, and are thus carried out in terms of understanding the nature of a "causal relation" that is thought to obtain between discrete events, and with assumptions (e.g., about space and time) that are drawn largely from mechanistic models of science. Hume's billiard ball hitting another (presumably in a predictable fashion) is still rather typical of the kind of event that is taken as paradigmatic for analyzing the meaning of causality. Changes are thus seen by regularity theorists as isolable events interacting (efficiently) with one another within the framework of lawlike relations or nomic generalizations. Singular causal statements, in other words, are to be logically related to general causal statements, with the latter in turn being regarded as contingent generalizations unrestricted in their scope.¹

Now few contemporary regularity theorists accept without qualification Hume's rejection of necessity in nature in favor of just "constant conjunction," or his accounting for our belief in power or necessity by reference to "custom" alone, and in order to distinguish nomic from accidental regularity they analyze causality in terms of conditionship relations. It is often thought by philosophers in the Humean tradition that a cause is that set of conditions (among all those present) each of which is necessary and jointly are sufficient for the occurrence of a certain effect. In somewhat more elaborate and precise terms:

. . . a causal condition of an event is any sine qua non condition under which that event occurred or any condition which was such that, had the condition in question not obtained, that event (its effect) would not have occurred and the cause of the event is the totality of those conditions. . . . Once one has enumerated all the conditions necessary for the occurrence of a given event, that totality of conditions will at once be sufficient for its occurrence or such that no further conditions will be necessary.²

But it has been pointed out by many contemporary analysts of regularity theories that on this account of conditionship relations it is no longer possible to distinguish cause from effect. Georg Henrik von Wright writes:

. . . the fact that a certain state obtains is a sufficient condition of the fact that a certain other state obtains if, and only if, the fact that the second state does not obtain is a sufficient condition of the fact that the first does not obtain.³

. . . heavy rainfall in the mountains might, under given circumstances, be a causally sufficient condition of a flood in the valley; but we are not inclined to say, at least not on that ground alone, that the fact that no flooding occurs is a cause of the effect that there is no heavy rain.⁴

And Richard Taylor writes:

The expression 'X is sufficient for E' is exactly equivalent to 'E is necessary for X'⁵

The analysis of the causal relationship [in terms of necessary and sufficient conditions] has one strange consequence . . . namely, that it does not enable us to draw any distinction between cause and effect.⁶

The main question which I propose to raise and treat in this study is: Can we understand something more about the meaning of causality from the standpoint of attempting to understand the nature of one of the most complex of human experiences, namely of "creativity"? I propose, in other words, to take the "creative act" as the primary example or event to be understood in our thinking about causality, rather than one billiard ball hitting another (or a match being ignited and starting a fire). This approach to the nature of creativity and causality, will undoubtedly be resisted by many philosophers, for it is indeed customary today in studies of creativity (especially psychological ones) to approach creativity as something which is itself to be explained (reductively)--e.g., by Freud, as a compensatory activity which feeds on wish-fulfillment and substitute gratification.

Now it is also clear to many of us that this effort to reduce creativity to a mechanistic-based model of efficient causality is rather fruitless, as it tends to miss just what we understand to be some of the distinctive characteristics of creativity (e.g., novelty, critical control and autogenetic development).⁷ The inadequacy of applying the usual causal models to creativity, as well as the many difficulties that beset empirico-mechanistic models of causality, suggest the possibility of our advancing in the other direction, namely from an analysis of creativity to the meaning of causality.

THE NATURE OF CREATIVITY

Desiring, then, that all things should be good and, so far as might be, nothing imperfect, the god took over all that is visible--not at rest, but in discordant and unordered motion--and brought it from disorder into order, since he judged that order was in every way the better. (Timeaus, 30A Cornford trans.)

The theory of artistic creativity of a culture, it seems, is always closely related to that culture's cosmology. Under the sway of Judaeo-Christianity Romanticism sees creativity as a kind of creation *ex nihilo*, a spontaneous but purposive bringing forth of something new into being, with the creative artist, like the creator god, being a fit object of worship. Traditional Indian culture, on the other hand, sees divine creativity in emanational terms as an overflow of spiritual energy, a disciplined yet exuberant and purposeless play. It then sees human creativity as a spontaneous but highly disciplined expression of joy and adoration. For Plato, and the Greeks generally, creativity is seen essentially in demiurgic terms as a rearranging of existing materials so as to bring about a greater (and the greatest possible) measure of order into an otherwise chaotic world of visible becoming. The artist, like the demiurge, is a craftsman, a maker. Today, however, we do not have a received cosmology that recommends itself axiomatically, as it were, to all educated minds--East or West. In its place we have several competing scientific theories or models (with a general consensus seemingly obtaining among scientists that they are all seriously inadequate) and thus, although we bear the weight of an "historical perspective" on the matter, we can enjoy a certain freedom from this traditional dependency on cosmology in our thinking about creativity.

Nevertheless we are still bound today to a considerable degree to a quasi-romantic view of creativity, for in ordinary language the term has come to be used rather indiscriminately to apply to any activity that bears some mark of "expressiveness" or "originality". In our more "progressive" schools children are encouraged to "be creative"--but it is never made very clear just what that is supposed to mean--and indeed the term is applied to the work of the gifted physicist equally as well as to the play of the talented artist. Still it is artistic creativity that serves as the model for what "creativity" means, and so in our analysis we will take artistic creativity, the process by which an artwork is made, as the paradigm case, realizing, of course, that it may contain some features which are not present in any significant degree in other forms of what we accept as creative activity.

One of the most striking features of artistic creativity (which I will hereafter use synonymously with "creative act") is what we might call its immanent purposiveness. Aiming at the fulfillment of only those ends which it itself defines and articulates, the creative act answers to no other guiding need or external telos. Its purpose is developed in the process itself; which is to say, a sense of "rightness" or "appropriateness," within the context of the particular creative act, governs the artist's bringing his work to fulfillment or completion.

I have argued elsewhere that when art achieves autonomy, as it assuredly has in our age, the meaning of an artwork is not to be found as such in the conventional symbols it might employ or in an independently formulated series of concepts which it may be said or seen to embody, but that its meaning is inherent in the work. A work of art is meaningful, I argue, to the degree to which it realizes the possibilities that it itself gives rise to. This means the bringing of the artwork to an appropriate conclusion and exhibiting the process by which that conclusion is achieved.⁸

A poem, a play, a musical composition, sets up conditions of expectation and anticipation which call for resolution and fulfillment. Now the progress towards this fulfillment--the process which is in fact exhibited--is not mechanical; the artist doesn't put down initial words, colors, sounds with everything else and then following inevitably from this initial placement, as a conclusion might from premises in a valid deductive argument; rather the "appropriateness" of a conclusion or consummation of the work depends as well upon elements of surprise or novelty. The artist is himself often surprised by the development of his work, and sometimes appears--as Plato observed some time ago--the least able to explain what he is doing. If explanation calls for lawlike generalizations and prediction, then it is not difficult to understand the artist's "ignorance." Anyone else's supposed knowledge would only be a gross pretension; for the creative process, by its very nature, does not aim at a fixed, predetermined end that can confidently be predicted, and does not admit entirely of relationships that can be generalized into nomic statements or universal rules, rather it autogenetically defines itself; its purposiveness is precisely immanent to it.

For a work of art to have the kind of integrity--of "wholeness" and "honest use" of materials--that is appropriate to it, the creative act must involve what I call interjective control. It is a rather fancy name for this fact, that the creative act must involve a non-calculative, intuitive--if you will--grasp of the structure, principles or "syntax" of a medium, be it of concrete materials or abstract symbols, so that the act is one of working with these principles and not one of exercising force over them. Any craftsman, from the woodcarver to the auto mechanic--and all artistic creativity is craft in one of its rich dimensions--realizes this need to be attuned, as it were, to his medium in such a way that he contributes to, but does not impose an alien will upon its natural rhythm or structure. This interjective, in contrast to coercive, control is very difficult to analyze,

but it is of considerable importance, I believe, in understanding creativity in relation to causation. One of the reasons the usual models of causation apply so poorly to creativity is just this intimacy between the creative act and its object, the agent here being effective only insofar as he works with the potentialities of his medium in a profoundly sympathetic and understanding way. I can push a chair around the room with only a rudimentary knowledge of practical physics acquired by experience; but I can create a work of sculpture only by a highly disciplined understanding of how to work with stone.

In fulfilling the purposes which it itself articulates, the artwork, through the creative act, stands then as a joint effort of its creator and the given medium. It calls for cooperation, for a harmonious relationship, between the self and nature; it calls for a special reverence, for a loving concern, of artist for his material so that he may indeed bring to full articulation one of the many possibilities of that which is given to him.

But this is not to suggest some one-sided passivity or abject obedience on the part of the artist. The creative act is a kind of "letting be," but at the same time it is a shaping, a formative act, which involves expressive power. Together with immanent purposiveness and interjective control the creative act is an infusion of power. an imparting of a felt life or vitality; it is a making of that which is alive with the very spirit of natural life. The presence of power in creativity is not, however, as I understand it, an expression so much of a Nietzschean "will to power"--with its associated romantic emotion and sense of radical achievement--as it is a manifestation of a rhythmic force which is spontaneously exhibited. Life is rhythm, as the poet will tell us, and the creative act is just that act which grasps this rhythm--what the classical Chinese called "spirit resonance" (ch'i-yun sheng-tung)⁹ and manifests it as expressive power. Hume might well have exorcised all powers from (efficient) causation--but to do so for creativity would be to trivialize it and render it incomprehensible.

Closely related to the feature of power in creativity is that of form--its natural complement. What oftentimes distinguishes genuine creativity from those acts of "self-expression" enjoyed by the ardent young lover who writes what he is pleased to call "poetry," or by the amateur painter who wants to share his pleasure of pretty landscapes with others, is just this arduous task, namely, bringing the created object to its right conclusion through the achievement of form. By "form" in art we do not mean some kind of independently analyzable shape or structure, but that blending of content and structure which appears then as inevitable. Form is the artwork as a realized end which establishes those relationship which are right for itself.

Creativity is formative. It is a making, a techne, which, when wholly successful, results in a form which is radiant by virtue of the rightness of the relations articulated and the appropriateness of the feeling and insight achieved.

No two creative acts are ever alike. Now it is assuredly the case that in some important sense no two human acts of any kind are ever alike insofar as any act, no matter how routine, takes place at a given time and place with all its attendant particularities; but in asserting the unlikeness of creative acts we are asserting something much stronger than this; we are asserting that a special kind of uniqueness or singularity is one of the distinguishing features of this kind of activity.

Creativity means, at least descriptively from the standpoint of the creative actor, precisely that fusion of chance and determination which allows of no repetition. Constrained by all the limitations of one's character, of one's history and experience, of one's capacities and talents, and yet having this history--and present moment of insight--available to one, is the non-repeatable opportunity that is at the very essence of the creative act. Creativity, in other words, involves.

having available to one an indefinite number of possibilities which are related to one's history; and being singular at its heart, creativity makes for unique objects. Works of art may be similar in many ways (by style, genre, etc., and especially when from the hand of the same artist), but it is always just this particular work as a particular work which commands our attention; it is this realization of form infused with power that interests us--and is in some way compelling for us.

Creativity, it has often been pointed out in both East and West, is a kind of play; in Sanskrit designated as *lila*, as that sportive act of the god who, in creating, admits of no purpose and whose activity is thus a spontaneous overflow of his own superabundant nature. 'Play', however, doesn't mean a lack of seriousness or intensity; it means rather a kind of innocent, but not naive, illusion-making; an innovative and hence unexpected ordering and shaping. In creativity as play there is a felt voluntariness, which paradoxically perhaps is nevertheless felt as inwardly necessary, as something that is required to be done. Play, in short, is disciplined spontaneity. It is knowledgeable and insightful; but it answers to no formulae. Spontaneity in creativity is not, on the other hand, an uninhibited exhibition of emotion or feeling; it is not impulsive, a blind response to the strongest force within one at the moment; it is rather a natural extension of that harmony or that subtle tension which is there as part and parcel of the creative act. Spontaneity, in other words, is utterly continuous with all other elements or features of the creative act. Creativity is a free, self-determining act; it is singular and unpredictable, and hence, in these terms, defies usual causal explanation; but it is also disciplined and ordered and, in these terms, is amenable to intelligent understanding. "Discipline" means ordering relations, through experience, so as to achieve just that rightness in relationship which is of the essence of form. Being formative the creative act is necessarily a controlling of a medium--in play.

We have so far distinguished immanent purposiveness, interjective control, infused power, formativeness, uniqueness or singularity, and playfulness as special features of creativity. The last feature which I should like to call attention to, and one which has a peculiar relevance for our theme of creativity and causality, is the special transitivity or mutuality between creativity and what is created that seems to obtain. In creativity the creative agent does not simply remain untouched by his act, as we tend to believe an efficient cause is by its effect; rather creativity, perhaps more than any other activity, is self-formative as well as formative of an object. One is changed in the process of making; one discovers oneself (more actually than one "expresses" oneself) in the creative act; one achieves what Albert Hofstadter calls an articulation of self as well as of work, by and through the work itself. The relation, in short, that obtains between human creator and thing created is one of mutual conditioning. Something of oneself is carried over into the work with the work, in the process of becoming what it then is, going to influence one's own being.

Creativity, then, is that activity whose end or purpose is realized as such only in the activity; which calls for a working with, rather than a coercive control over, the principles or structure of a medium; which infuses a power or vitality and is thoroughly formative in nature; which gives rise through its own singularity to objects whose uniqueness is central to their definition; and which is a kind of play or disciplined spontaneity which goes in turn to influence or condition its agent.

CAUSALITY AND CREATIVITY

Georg Henrik von Wright, in his interesting work *Causality and Determinism* is extremely modest in his ontological claims. He doesn't believe that he is in a position to articulate features

of reality directly and states accordingly that it is "legitimate to ask which requirements the facts (the world) must satisfy in order that there shall exist a concept, roughly at least like ours, of nomic causation."¹⁰ He concludes that on this basis "the world must to some degree approximate to the model of logical atomism."¹¹

But suppose we were to follow a somewhat different path and ask what model of experience is most appropriately in accord with our understanding of creativity and with the facts of our experience, and then from this model derive our concept of causality. Rather than starting with "our notion of nomic causation" and asking what the world must be like to satisfy that concept we start with an account of experience and see what concept of causality is best in accord with it.

We start then with perception. And we may meet the issue directly by asking. Do we actually experience mere states of affairs and atomic events or do we experience processes, event-patterns to which, for a variety of reasons, we assign beginnings and ends? Now it is not possible to elaborate here a theory of perception; it should, however, be noted that differing psychologies of perception (gestaltist, genetic) do seem to agree that our basic experience of the empirical world is an active one of our purposive engagement with dynamic structural-unities; that what we perceive are processes and not simply things frozen in space and time. We do, of course, mark-off from continuous changes those aspects that are of special interest to us and regard them as relatively isolable. We do not experience the world as a Bergsonian pure *durée*, rather we see things and events as "distinct" insofar as they allow for individuality, for being identifiable ontically as particulars; and it is this kind or measure of individuality rather than Humean "distinct existences" which is the stuff of our experience. Let us look at this a bit further.

J. L. Mackie argues that "distinct existences" are indeed required for the meaning of causality. "For this purpose [of saying what causal statements mean]" he writes, "it is sufficient to say that someone will not be willing to say that X caused Y unless he regards X and Y as distinct existences."¹² Now if all Mackie means by "distinct existences" is that we recognize that a change has occurred in a manner that calls for our recognizing an event and other consequences taking place, then this is trivially true; in order for the claim to be of any philosophic interest his meaning must be stronger ontically and, as with von Wright, it must involve at least a model of the world as reducible to "atomic events" of the sort that can only enter into "external relations" as "entities" that are otherwise self-defined. But this account of experience neglects the fact that events are histories. What we experience are not events corresponding to (atemporal) logical entities, but events having their own direction and aim, or what I shall call their "intentionality."

By the "intentionality" of an event or process I mean its aiming to be what is natural and appropriate to it. The intentionality of a process is the "direction" it takes, not spatially so much as ontically; we conceive of a process as tending, in its normality, toward some state appropriate to it. Intentionality does not imply a "final cause" or even a telological view as such. It means only that all that we experience as process has for us, by virtue of our experience, a normal state or becoming of its being. Normality is of central importance here. It is the principle that unites the continuity of a process with what the particular process is.

Now what makes for the specific normality of any given process is for the sciences and other modes of inquiry to determine (the normality of a billiard ball in motion with its particular velocity and direction may be articulated by explanatory concepts of physics, perhaps even adequately for some purposes by classical mechanics); it is enough for us to acknowledge it conceptually. The reality of normality, however, is borne out for us by our understanding of creativity as well as by the apparent facts of perceptual experience. We saw in our discussion of

interjective control and immanent purposiveness how a creative act develops its purpose in the very process of its artwork-making; which is to say that it does not have a fixed, predetermined end but one that emerges in the activity through the artist's sense of rightness. This rightness, we argued, was related to the nature of integrity and, accordingly, to the idea of interjective control. The creative act is with and through a medium; this demands that the artist work with the inherent structure or rhythm--the material and spiritual potentialities--of his medium. Creativity is par excellence a process of altering and bringing to realization potential normalities. As paradigmatic for an analysis of causality, creativity is that process which controls, through active, intelligent participation, the principles of a medium so as to establish an aiming or intentionality of those elements which it selects, organizes, controls.

This understanding of creativity provides a major clue, I believe, to a meaning of causality that is commensurate with the facts of our experience. The concept of process--with processes rather than atomic occasions being the fundamental content of our perceptual experience--involves that of aim and intentionality. We conceive of an alteration in states of affairs or events as either disrupting some present, relatively achieved state (e.g., an "inanimate object" at rest, whose aim it is precisely to be at rest), or, as the case may be, of preserving, through counteracting force, a given state of affairs; or of inhibiting the fulfillment of the natural course of some event: or of bringing it to a fulfillment that would not otherwise obtain (e.g., as when caring for--watering, trimming--a plant). "Disrupting," "inhibiting" . . . imply an otherwise normality--what the process is in its essential character as the process which it is. As the psychologist A. Michotte has pointed out:

. . . Psychologists of the Gestalt school (Wertheimer, Kohler, Duncker, and others) have emphasized that, when certain processes are in course of taking place, they `require' to be continued in a definite way. If they are halted, or if their direction suddenly changes, this produces a feeling of deception, surprise, or displeasure. This can be seen in particular in the case of rhythmic series, melodies, the shape of the path traversed by an object, and even in the case of a simple, fairly rapid movement when the object in motion suddenly ceases to move. Conversely, when the process is continued without interruption, the result seems satisfying or normal; it seems to develop `according to plan'. The same no doubt also applies to the experience of causality; and this is probably one of the characters which differentiates it in such a clear way from a simple impact in which the moving object comes to a halt. It is difficult, however, to see here a genuine necessity; it is rather an `invitation', and an invitation is neither an obligation nor a decree of fate.¹³

The meaning of causation (at least as given to us initially in a single-case experience) is, we argue, bound-up with the concept of normality. An event A is a cause of another event (or object) B if and only if among all other conditions present, relevant and necessary A alters the intentionality of B so as to interfere, bring to a fulfillment that would not otherwise obtain, or inhibit that intentionality.

Mary throws a stone through a closed window, shattering the glass. The thrown stone, the causal event, alters radically the normality of the closed window. And the causal meaning of the thrown stone is found precisely in this interference. The determination that the thrown stone is the cause, the verification of causality, might very well be had only by an analysis of conditionship relations (daylight, Mary's arm being in the right condition for throwing a stone of

a certain weight . . .) and involve the assertion of an appropriate counterfactual conditional that will ensure that the glass would not have been shattered if Mary had not thrown the stone, but the meaning of the event, as causal, is found in the radical alteration of the window's normality.

John turns on the heat under the pot of water and brings it to a boil. The 'boiling water' is a disruption in the accepted field of normality. The 'heating,' as cause, involves the counterfactual belief that the situation would have remained as it was, the water not boiling, except for the extraordinary presence of the heat.

Henry is driving along in his automobile but is suddenly disturbed by some unusual sounds in the engine. He brings his car home and examines it closely, seeking to find a way to eliminate the unwanted noise. He cleans the points and then discovers that the car now rides smoothly and noiselessly. The event of cleaning is the cause of the car now running properly (just as the dirty points may be said to be the cause of the noise); the cleaning brings to fulfillment that would not otherwise obtain in the circumstances, the intentionality of the engine to run smoothly and noiselessly.

H. L. A. Hart and A. M. Honore in their interesting work *Causation in the Law* write:

So we cause one thing to move by striking it with another, glass to break by throwing stones, injuries by blows, things to get hot by putting them in fires. Here the notions of cause and effect come together with the notion of means to ends and of producing one thing by another. Cases of this exceedingly simple type are not only those where the expressions cause and effect have their most obvious application; they are also paradigms for the causal language used of very different types of cases.¹⁴

They go on to state that

Human action in the simple cases, where we produce some described effect by the manipulation of an object of our environment, is an interference in the natural course of events which makes a difference in the way these develop

Common sense experience teaches us that, left to themselves, the things we manipulate, since they have a 'nature' or characteristic way of behaving, would persist in states or exhibit changes different from those which we have learnt to bring about in them by our manipulation. The notion that a cause is essentially something which interferes with or intervenes in the course of events which would normally take place, is central to the commonsense concept of cause, and is at least as essential as the notions of invariable or constant sequence so much stressed by Mill and Hume.¹⁵

It might appear, however, that we have placed ourselves on the circumference of a vicious circle by maintaining that the meaning of causality has to do with the alteration of normality, where the normality itself is defined in other lawlike terms which presuppose causality. The answer, I think, is that we have different kinds of analysis taking place: in the one, we are asking what is the fundamental meaning of causality as this concept is based on our experience--and we find this to be alteration of intentionality or normality; in the other, we are asking what is the ground or basis of normality, and this second-order, albeit more general question, we will argue, is not analyzable conceptually into more basic notions, although answers in particular contexts may be given to it in the descriptive and explanatory terms of various scientific inquiries. Von Wright has, I believe, correctly noted that

The confidence which I have that the water in the kettle would have boiled if heated is a confidence in the difference which the presence of a cause would have made to the prevailing situation. . . . Confidence of the latter kind presupposes confidence of the former kind, that is: confidence in the effects of causes (nomic connections) presuppose confidence in the causeless continuation of certain normal states of affairs.¹⁶

We assign priority to the sense of 'cause' that is based on experience, then, as this sense is precisely what is involved in our usual concern with "what is the cause of" questions. Nomic generalization is experientially derivative. We know about intentionalities and their alterations in experience before we know the "laws of nature" qua laws. A young child knows what to expect when he throws a ball against the wall without his knowing the laws of trajectory and impact. It might also be argued that when science asks the 'why' or 'how' of the normality of a given process it is not so much asking for causes as it is for reasons that are expressible mathematically in functional terms. Laws are not themselves causes. In the example of the boiling water, the "law" that certain liquids will boil when brought to certain temperatures is not the cause of the water's boiling; rather it expresses only the structure of normality of a given process. P. T. Geach is thus able to write correctly that

Scientists do not describe natural events in terms of what always happens. Rather certain natural agents . . . are brought into the description, and we are told what behavior is proper to this set of bodies in these circumstances. If such behavior is not realized, the scientist looks for a new, interfering agent¹⁷

We are interested then, for the most part, in finding the cause for some event or state of affairs when an alteration in what we take to be the normality of a process occurs. Causal events of alteration (interference, inhibition. . . .) of an aiming or intentionality as such are thus always single-case; that is, it is always a particular interference that takes place, albeit some single-case situations may be seen as instances of causal uniformity or of nomic generalization (e.g., the boiling of a pot of water at a certain temperature). This particularity needs, I believe, to be part and parcel of our meaning of causality for this reason, that a causal event implies spatial-temporal determinations that are never exactly repeatable. It may very well be that for certain kinds of physical causal events the factor of particularity is rather unimportant in seeking the cause(s) of certain phenomena (e.g., in medical science the search for the cause(s) of a disease is carried out with little, if any, importance attached to the fact that it is Tom or Alice . . . , with their special physical particularities, who is suffering from the disease), yet the dimension of particularity seems evident for the meaning of causality (and even in modern medical science there is a growing awareness that it is not enough to see a patient as just an instance of a "disease," but rather as a particular organism, whose particularity must holistically be addressed).¹⁸

The idea of causation as interference with intentionality also allows us to appreciate the mutuality (or karma, if you will) that often clearly obtains in cause-effect relationships--i.e., the effect in turn affecting the cause or the cause simply being affected by its "experience" as a cause. Many causal relations in our experience (especially in the domain of human action) are potentially symmetrical in the sense that my doing something (talking to someone in a certain way) in turn gives rise to activities directed toward me, which affect me in a variety of ways. And all causes as events suffer some consequences of their actions as causes. Events, as we have

said, are histories, not logical entities. In actual experience an event occurs in a context of processes, which is to say that events do not just take place, appearing as it were out of a void. As self-sufficient, self-defined things, they occur in, and are subject to, structures of continuous change. The stone thrown into the glass window is not the "same" stone it was before; it too is affected by the impact. The thrown stone as event has its own little history.

This mutuality, which is exhibited to a pre-eminent degree in creativity, where the very being of the artist is conditioned by his act, is also becoming increasingly apparent in technology with the advent of many "self-regulating" ("feedback") systems. Contemporary technology in many ways, it seems, is working from more organic models and away from simple, one-directional, one-dimensional mechanical ones. Interdependence with intertwining histories--mutuality--become the key terms of both animate and inanimate processes.

In sum: I have proposed that instead of taking as paradigmatic for the meaning of causality those everyday events that seem to lend themselves nicely to explanation by mechanistic causal accounts (billiard balls hitting one another; matches being ignited) we start with one of the most complex forms of human experience, creativity; that we seek to understand that experience as far as we can in its own terms and that we then apply that understanding back to the question of the meaning of causality. We want, in short, to see if an understanding of creativity can enrich our understanding of causality.

We saw that creativity, as exemplified in the making of an artwork, may be characterized as that activity whose end or purpose is realized as such only in the activity; which calls for a working with, rather than a coercive control over, the principles or structure of a medium; which infuses a power or vitality and is thoroughly formative in nature; which gives rise through its own singularity to objects whose uniqueness is central to their definition; and which is a kind of play or disciplined spontaneity which goes in turn to influence or condition its agent.'

In answering the question--What concept of causality best accords with the nature of creativity and the nature of experience?--we found, first of all, that the notion of process must take precedence over atomic events as the content of experience. "Process" means that events are histories; that we do not experience events as corresponding to atemporal logical entities, but as they have their own direction and aim--their intentionality. A process tends in its normality toward some state appropriate to it. Causation may then be seen as an alteration of that intentionality. We are concerned with causal explanation when an alteration in what we take to be the normality of a process occurs. And thus causal events are single-case; it is always a particular interference that takes place, albeit this particularity (to which insufficient attention on the whole has been paid in analyses of causality), while denying strict repeatability, does not rule out universality. When causality is understood in terms of this somewhat more organic model (which itself seems closer to contemporary science and technology, with its self-regulating systems) the mutuality of cause and effect, the event as a history, also becomes evident.

The meaning of causality, then, as related to creativity and our ordinary experience, is to be found in alteration of intentionality--of the normality of a process. While the normality of a specific process might call for nomic categories the meaning of causality nevertheless may be kept distinct from questions of what constitutes normality; the latter being answerable only in terms of particular cases.

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NOTES

1. J. Ayer, "What is a Law of Nature," *Revue Internationale de Philosophie*, X (1956), 144-65, in *Philosophical Problems of Causality*, edited by Tom L. Beauchamp (Encino, California: Dickenson Publishing Company, 1974), p. 83.
2. Richard Taylor, "Causation," in *The Encyclopedia of Philosophy*, Editor in Chief, Paul Edwards (New York: Macmillan, Free Press, 1967), II, p. 63.
3. George Henrik von Wright, *Causality and Determinism* (New York: Columbia University Press, 1974), p. 13.
4. *Ibid.*, p. 17. von Wright believes that the concept of causal necessity, which is required to distinguish nomic from accidental regularities, is intelligible only with reference to counterfactual conditionality; and that the latter in turn makes sense only when seen in relation to a concept of action. "When saying that p is a causally sufficient condition of q, we are not saying only that, as a matter of fact, whenever p obtains, q obtains, too. We also claim that on all occasions in the past, when p did in fact not obtain, q would have obtained, had p obtained on those occasions. Only if the proposition that p is a sufficient condition of q warrants the truth of the counterfactual conditional proposition in question, does the conditionship relation here amount to a causal relation." (*Ibid.*, p. 8). He goes on later to ask: "Can a singular counterfactual conditional statement ever be verified?" He answers: "In order to verify it, we should have to substitute for a state which obtained at a certain stage in the world's history another state which did not obtain at that very stage. In any straightforward sense of 'verification' this is certainly not possible." *Ibid.*, pp. 37-38.
5. Richard Taylor *Action and Purpose* (Englewood Cliffs, New Jersey: Prentice-Hall, 1966), p. 29.
6. *Ibid.*, p. 32. In somewhat different terms J. L. Mackie makes this same point: a simple regularity theory, a cause is both necessary and sufficient for its effect in such a sense that it follows automatically that the effect is equally sufficient and necessary for its cause: "Whenever an event of type B occurs an event of type E has preceded it and whenever an event of type A occurs an event of type B will follow." *The Cement of the Universe: A Study of Causation* (Oxford: At the Clarendon Press, 1974). p. 160.
7. See Vincent Tomas, "Creativity in Art," *The Philosophical Review*. LXVII, (1958), and Monroe C. Beardsley, "On the Creation of Art," *The Journal of Aesthetics and Art Criticism*. XXIII (1965).
8. Cf. "On the Concept of Art," forthcoming in *The Journal of Chinese Philosophy*.
9. This is the first of the famous six canons of classical Chinese painting as set down by Hsieh Ho in the fifth century.
10. von Wright, p. 55.
11. *Ibid.*
12. Mackie, p. 32.
13. A. Michotte, *The Perception of Causality* (London: Methuen & Co., 1963), p. 261.
14. H.L.A. Hart and A.M. Honoré, *Causation in the Law* (Oxford: At the Clarendon Press, 1959), p. 27.
15. *Ibid.*
16. von Wright, p. 43.
17. As quoted in Mackie, p. 75.
18. The denial of strict repeatability in favor of particularity, in short, does not rule out universality. It is quite possible, and indeed necessary, that we recognize regularities in

experience without our having to ascribe a sameness to the particular events that constitute the regularities. The "law of gravity" may happily obtain even though one could never `drop' the same object under identical conditions more than one time. Non-repeatability of a strict kind and universality are logically independent.

CHAPTER XVIII
AESTHETIC MEANING OF NATURE AN INDIAN APPROACH
BISHNUPADA BHATTACHARYA

All art has its genesis in the confrontation of the artist's vision with the material world, both organic and inorganic. These constitute respectively the subjective and objective counterparts of an artistic creation. Just as artistic intuition without its objective correlative is an empty form, so the objective counterpart or content of an artistic production, however rich and varied by itself, cannot lead to perfection without the aid of the penetrative vision of the artist. This vision brings the great variety constituting the content of art into a coherent whole, adding a new value to the otherwise discrete facts and imbuing the dead matter with the glow of sublimity. For the attainment of knowledge, at least on the mundane plane, neither pure consciousness nor objects as such are enough, their interaction alone making the act of cognition meaningful. Similarly, in the field of artistic creation it is the artist's spiritual vision working upon the objective world, internal and external, organic and inorganic, that makes his act of creation a success. Consequently, in ancient India, as in the West, great importance was attached to these two essential factors of artistic creation, the subjective and objective, the spiritual and material, relating to the major divisions of art such as poetry, painting, sculpture, music and architecture. Therefore, the pronouncements of great thinkers on these two factors and their mutual interaction deserve to be studied with both care and respect.

In the present paper I shall attempt to analyze the findings of the ancient Indian critics of art which bear on this particular field and bring them into a coherent body of norms. Its intent is to assist the enlightened layman to grasp the underlying mystery of the process of artistic creation and to compare the ancient Indian approach with corresponding ones in the West. The present study is based mainly upon observations in the masterly works bearing on Sanskrit literary criticism, most of which are applicable also to other fine arts.

THE ARTIST

The two prerequisites that make up the personality of the artist or poet are creative vision or imagination (pratibh^a) and wide knowledge of Nature (vyutpatti). These correspond to the above-mentioned subjective and objective counterparts of a work of creative art. As the second prerequisite is essential for making the content of a work rich and varied we will treat it first. For the attainment of vyutpatti or wide knowledge of organic and inorganic nature all critics give priority to direct first-hand experience of the varied aspects of the universe. Early critics like Da.n.din, Bh^amaha, V^amana and Rudra.ta have unanimously stressed the importance of first-hand acquaintance of loka, loka-v.rtta and loka-svabh^ava. Bh^amaha, the eminent poet of the 7th century A.D. (circa), while enumerating the different subjects to be mastered by a poet, includes loka in the list:

Sabd^as-chandobhidh^an^arth^a itih^as^asray^a.h kath^a.h/ Loke yukti.h kal^as ceti
mantavy^a.h k^avyagairhyamⁱ//

Vamana, again, gives the first place to loka:
loke vidy^a prakⁱ.r.naⁿca k^avy^ang^ani

What is loka? Amara, in his lexicon, gives loka as a synonym of bhuvan and jana. Vamana, in his K^avy^ala.mk^ara-S^utra (1.3.2) equates loka with loka-v.rtta, which has been explained as "loka.h sth^avara-jangam^atm^a/ tasya vartana.m v.rttam iti//." Thus, it is evident that by loka is meant not only the entire organic and inorganic universe, but also their distinctive modes of living, their customs, manners, and everything relating to them. The commentator Gopendra Tripurahara justifies the priority attached to loka by V^amana in his gloss: "Loka iti/ var.nanⁱyam antare.na ki.m var.nyata-iti loka.h prathamam uddi.s.ta.h/." There can be no doubt that without the artist's acquaintance with loka in the widest sense his creation becomes devoid of content or what is to be expressed and is reduced to an empty form. Similarly, Rudra.ta in his K^avy^ala.mk^ara includes loka-sthiti among the subjects of minute study and observation on the part of a poet. As he says:

chando-vy^akara.na.kal^a-lokasthiti-pada-pad^artha-vij- ñ^an^at/
yukt^ayuktaviveko vyutpattir iya.m sam^asena//

Namis^adhu, in his gloss thereon, explains loka-sthiti as:

loka.h sva.hprabh.rtayas te.su car^acar^adisvar^upaniyama.h sthiti.h.

The poet has to move within the limits set down by loka-svabh^ava, and he can transgress them only at his own risk. Nevertheless, he does have a type of poetic license to go beyond the strict confines of loka for achievement of the desired aesthetic effect.

Bharata, the eponymous author of the N^atvas^astra. attaches the highest importance to loka as a valid source of knowledge (pram^ana), giving it pride of place among the three pram^anas recognized by him: "Loka vedas tath^adhy^atmam pram^a.nam trividha.m sm.rtam/." For dramatists and producers of dramatic performances loka has the highest authority as, in Bharata's words, n^a.tya is lok^atmaka. Loka has the greatest authority from the viewpoint of dramatic art as the evidence of loka cannot be invalidated even by s^astra's. As Bharata says:

loka-siddha.m bhavet siddha.m n^a.tya.m lok^atmaka.m tath^a/
na ca sakya.m hi lokasya sthavarasya carasya ca/
s^astre.na nir.naya.m kartu.m bh^avace.st^a-vidhi.m prati//
n^an^a-sⁱl^a.h prak.rtayah s^ale n^at.ta.m prati.s.thitam/
tasm^allokapram^a.nam hi vijñeya.m n^a.tya-yokt.rbhi.h//

Commenting on these verses Abhinavagupta observes in his Abhinava-bh^arati:

Yat loke siddham tat siddham/ na tat kasyacit asiddham iti y^avat/ nahi
lokaprasiddhim apahnotu.m
kascit smartha.h/ Suvipratipannasy^api tadapahnave
k^a.s.thap^a.s^a.nat^apattiprasang^at/

The importance of loka, loka-sthiti, loka-y^atr^a, loka-prasiddhi, loka-v.rtt^anata, is also duly emphasized not only in poetry and drama, but in other fine arts as well, especially in the art of painting. A verse of Silparatna indicates the broad scope of this art:

jangam^a sth^avar^a v^a ye santi (-tyatra) bhuvanatraye/
tattatsvabh^avatas te.s^a.m kara.na.m citra.m ucyate//

From the above citations, there can be little doubt as to the awareness on the part of artists and critics of the importance of an intimate acquaintance with the varied cosmic creation for their proper representation in works of art such as poetry, drama, painting, etc.

THE WORLD OF NATURE AND THE ARTIST'S CREATION

At this point the question arises: What is the relation of the objective world of Nature to the artist's creation? How is Nature to be represented in a work of art? In the following section some representative Indian views bearing on this issue will be discussed.

In the N^atyas^astra Bharata designates dramatic art as anuk^rti, which is employed frequently as a synonym of n^a.tya: `tadante' nuk^rtirbaddh^a', on which Abhinavagupta comments:

anuk^rtir iti `n^a.tyam'

Dramatic art is seen as a form of `imitation'. Dramatic art is seen as a form of `imitation'. It is also called anuk^rrtana. As Bharata observes with reference to n^a.tya, `trailokyasy^a sarvasya n^a.tyam bh^av^aanuk^rrtanam'. In drama this anuk^rra or amu- k^rrtana or representation is achieved through the four recognized modes of acting (abhinaya)--viz., `angika, v^acika, `ah^arya and s^attvika. In narrative poetry, either prose or verse, this is done by linguistic expression known as varnana in the terminology of Sanskrit aesthetics. Therein lies the main difference between these two principal art-forms, succinctly stated in the following couplet attributed to Bha.tan^ayaka:

anubh^ava-vibh^av^an^a.m var.nan^a k^avyam ucyte/
te.sa^a eva prayogastu n^a.tya.m gⁱt^adi-rañjitam//

How is this var.nana or abhinaya related to the objects belonging to the organic and inorganic universe? Are things, as found in the world identical with those represented in works of art such as poetry, drama and painting? Is the Himalaya as it appears to our perception the same as the Himalaya described by K^alid^asa in the First Canto of the Kum^ara-Sambhava? It is obvious that objective reality cannot be identical with aesthetic representation. The objective universe is penetrated through and through by a continuous nexus of causality, some objects being causes (k^ara.na), some effects (k^arya) and others concomitants (sahak^arin). Somehow this nexus has to be broken by the artist in representing the universe in his work of art. He has to choose some and discard others; he may have to reverse the causal order that is apparent in the objective world; he may have to introduce new elements that had no place in the historical sequence of events. Thus the artistic representation cannot prima facie be an exact replica of the cosmic universe that constitutes the material of the artist. It is this difference between the two realities, namely, the objective and the aesthetic, that has been stressed by Indian critics. To avoid any possible confusion between the two they have made use of the terms vibh^ava, anubh^ava and vyabhicari-bh^ava in lieu of k^ara.na, k^arya and sahak^arin. Thus realism, in the strict sense, as characterizing the process of artistic creation is something of the sort of a misnomer. The artist's world is distinct from the world of reality as popularly conceived. This point has been very beautifully stated by Bhatta Tauta, a celebrated critic and teacher of the great Abhinavagupta, in the following couplet cited in the latter's Abhinava-bh^aratⁱ:

Kavisaktyarpit^a bh^av^as-tanmayⁱbh^ava-yuktitah/
Yath^a sphurantyamⁱ k^aavy^an-na tath^a dhyak.sata.h kila//

The things of the world that the artist perceives are the raw materials out of which he builds up his own universe by a judicious selection of the vibh^avas, etc., which from his point of view alone possess reality. Abhinavagupta, too, stresses this point frequently in his Abhinava-bh^arati:

ete ca vibh^av^anubh^ava-vyabhic^arir^up^a eva/ na tu
tadatikta.m jagti kiñcid asti prayoge//

IMITATION OF NATURE

If the artist's universe thus differs from the cosmic universe how can art be regarded as imitation (anuk^rti, amukⁱrtana)? What is the exact significance of the term anukara.na as applied to a work of art? Is it mere simulation (Sad^rsakara.na) of the external reality? How is it possible to imitate persons, things and moods that are not present, that are spacio-temporally inaccessible to the artist and as such not susceptible to his perception? Thus, the concept of imitation is a basic theme that underlies the creative process of the artist and constitutes its raison d'être. Its riddle must be solved before we can hope to understand the relation of the artist's world with the objective world accessible to our mundane experience.

Abhinavagupta in his masterly exposition of Bharata's N^a.tyas^a.stra, critically analyzes the concept of anukara.na or anukⁱrtana as applied to dramatic art. After a thorough analysis of this concept he comes to the conclusion that imitation, in the usually accepted sense of the term, is totally inapplicable in art, for even in our day-to-day affairs, imitation is a source of ridicule and laughter. `Parace.s.t^anukara.n^addh^a.sa.h samupaj^ayate.' In the ultimate analysis, anukarana is a form of anuvyavas^aya or mental reconstruction that is an entirely new creation by means of the artist's intensive mental concentration or sam^adhi. Of course, the poet or artist collects his raw materials from his own observations and other accessible sources. When these materials are represented in art, they assume an altogether new complexion; the resemblance they bear to the former is only apparent and not real. This apparent resemblance cannot be achieved by means of imitation in the ordinary sense as the conditions of imitation are available neither to the artist nor to the connoisseur.

As imitation in art is distinct from a mere reflection as in a mirror of things of the world or of nature and man, the poet's world must be looked upon as a completely novel creation and not a mere replica or projection of the world of our ordinary experience. The rules that govern the objective world are altogether ineffective with reference to the artist's universe. The laws of providence cannot touch the process of artistic creation. As Mammata puts it, the poet's creation is niyati-k^rta-niyama-rahit^a. The artist portrays, by means of words or other media, things beautiful and ugly, attractive and repulsive, noble and mean, high and lowly. Whatever be their real nature in the objective world, they are completely transformed in the process of artistic creation and all of them serve to achieve the sole purpose of the artist, namely, evocation of the desired emotional states in the minds of the connoisseurs. It is precisely because the poet or the artist has the unique gift of transforming the materials that he culls from the objective world that he is called praj^apati or the creator. ^aNandavardhana, the celebrated author of the Dhvany^aloka, refers to this unique creative power of the artist in the following memorable stanzas:

ap^are k^avya-sa.ms^are kavir eka.h praj^apati.h/
yath^asmairocate visva.m tathedam parivartate//
S^rmagri cet kavi.h k^avye j^ata.m rasamayam jagat/
Sa eva vⁱtar^agas cen-nⁱrasa.m sarvam eva tat//

This power of evoking the emotions is not traceable to things as they are in the objective world. It is conferred on them by the artist by means of the artistic expression through the medium he uses, be it words, colours, stone or musical notes. As R^ajasekhara puts it succinctly in a striking mnemonic verse of his K^avyamⁱm^ams^a:

kukavir vipralambhe'pi rasavatt^am nirasyati/
astu vastu.su m^a v^a bh^ut kaviv^aci rasa.h sthita.h//

Also this power of evoking the desired emotional moods that the so-called real things of the world acquire in works of art depends to a large extent on the emotional mood of the artist himself, for it is this which governs his act of selection and transformation of the raw materials of nature. A thing with no emotional appeal to an indifferent and emotionally incapacitated onlooker may serve as a symbol of deep emotional implication for a true artist with strong emotional bent. The same object may even serve as the symbol of two diametrically opposed emotional moods according to the difference in the artist's psychological makeup. R^ajasekhara, on this point, cites the view of one P^alyakⁱrtti who emphasizes this selective capacity of the artist and his gift for transformation of the apparently intransigent things of nature in accordance with his inner emotional urge:

Yath^a tath^a v^astu vastuno r^upam, vakt.rprak.rti-
vise.s^ayatt^a tu rasavatt^a/ tath^a ca yam artha.m rakta.h
stauti ta.m virakto vinindati madhyasthas-tu tatrod^aste/
iti P^alyakⁱrtti.h//

Moreover, the poet or artist does not observe the line of demarcation separating the two broad classes of organic and inorganic nature in day-to-day experience. To his vision these things are not divided into clear compartments; rather, each is invested with properties of the other according to his emotional urge whenever occasion demands it. This has been noted by ^Anandavardhana in the following ^ary^a cited in his Dhvany^aloka:

bh^av^an acetan^an api cetanavac-catan^an acetanavat/
vyavah^arayati yathe.s.ta.m sukavi.h k^avye svatantratay^a//

Thus, he is completely at liberty (svatamtra) to deal with nature, animate and inanimate, unfettered by the laws that govern the material universe. The same thought has been expressed by the great Prakrit poet V^akpatir^aja in the following g^ath^a of his epic Gaü.davaho. It was quoted also by ^Anandavardhana in support of his views concerning the fact that the endless variety and novelty of things never grow old and commonplace even though they are viewed by artists of every age and clime and incorporated in their works of art:

ataha.t.thie vi tahasa.n.thie vva hiaammi j^a.nivesei/
atthavisese s^a jaaⁱ vika.daka^a goar^a v^a.nⁱ//

This process of transformation of the inanimate into the animate and vice versa is intensely evident in K^alid^asa's Clous Messenger where the cloud, rivers, hills, trees and creepers are portrayed as if they are all sentient beings. K^alid^asa tries to justify this apparently abnormal outlook from the standpoint of the love-lorn Yak.sa with the observation:

`K^am^arta hi prak.rti-k.rpa.n^as cetan^acetane.s.u.' However not only lovers and lunatics but poets and artists as well seem to ignore this dichotomy of Nature into organic and inorganic, animate and inanimate, sentient and insentient, which appears to be one of the basic and

ineffable principles of cosmic creation. Though this obliteration of the apparently inviolable principle of division underlying the created universe is an affront to reason in genuine works of art this forms the very quintessence of artistic creation itself. Ānandavardhana, with his keen insight, unerringly points to this basic fact of artistic creation in the Second Uddyota of his Dhvany^aloka in the course of his analysis of the nature of rasavad-ala.m-k^ara thus:

Yasm^an-n^astyev^asau acetanavastuv.rtt^anto yatra
cetana-vastuv.rtt^anta-yojan^a masty-antato vibh^avatvena//

If a poet or artist portrays the objects of nature, whether animate or inanimate, only as they are experienced by ordinary beings, he would be failing in the primary duty of a true artist. It is not the task of an artist to hold a mirror up to nature. In this connection the verses cited by Abhinavagupta in his commentary on the N^a.tyas^astra (XIX. 130) and attributed to his preceptor (Bhaṭṭa-Tauta?) deserve to be quoted here as they incorporate the very quintessence of artistic representation:

Yad yatr^asti na tatr^asya kavirvar.nanam arhati/
Yann^asambhavi tatr^asya tad var.nya.m saumanasyadam//
deso'dridanturo dyaurv^a ta.tit-ku.n.dals-ma.n.dit^a//
-id.rk sy-ad athav-a na sy-at ki.m kad-acana kutracit//

This transformation of nature in art is discernible in the art of painting also. K-alid-asa gives expression to this basic principle in the Sixth Act of his Abhijñ-anas-akuntala through an utterance of Dusyanta with reference to Sakuntal-a's miniature portrait which he was painting.

yad yat s-adhu na citre sy-at kriyate tattadanyath-a/
tath-api tasy-a l-ava.nya.m rekhay-a kiñcid anvitam//

This principle of transformation of natural objects in painting is also traceable in the Mah-abh-arata according to K.semendra, who cites the following stanza in his Kavi-ka.n.th-abhara.na to show Vyasa's acquaintance with the principles of governing the art of painting:

atathy-anyapi tathy-ani darsayanti vicak.sa.n-ah/
same nimnonnat-an-iva citra-karmavido jan-a.h//
Transformation of Nature

In every form of art this transformation, in a greater or lesser degree according to the nature of the medium employed, is present as an indispensable element, a sine qua non, without which it is not possible to portray nature in works of art. There remains an argument against the validity and justifiability of this apparently basic principle and it had to be answered by the great critics and aestheticians of India as by philosophers of ancient Greece. As we have seen all fine arts, such as drama, painting, poetry, etc., are imitations or representations of nature, whether organic or inorganic. If the artist is free to distort nature, to represent things of the objective world as what in reality they are not, it is obvious that his work is unreal, not true to nature, a falsification of the essence of things that are commonly apprehended by men of the world. Drama, poetry, painting, sculpture, music and dance all become unreal appearances; they are asatya or untrue, false. Thus, it is not morally justified to encourage the practice of these arts and their study in a society that seeks the moral edification of its members. That such an objection was actually raised against the validity of artistic creation is evident from a reference to a similar view against

poetic art in particular and traceable in R-ajasekhara's K-avyam-im-a.ms-a, namely, `asaty-arth-abhidh-ayitv-at nopade.s.taya.m k-avyam-ityeke.'

Is this charge against artistic creation valid? Should the artist's creation be denounced as false because it is not a faithful representation or reflection of the things of the world? The question is important and Indian thinkers have tried to uphold the validity and truth of artistic creation by analyzing the nature of the intuitive vision by the artist. This alone reveals to his mind the true nature of things as represented in his work. The artistic intuition is called `divine' (divya) and the artists and poets `divya-d.ro', i.e., endowed with the gift of divine sight. No human eye can see the nature of things which is glimpsed by the artist's imaginative intuition (pratibh-a) alone as if in a flash. It is the third eye of Lord Siva which can probe into the mysteries of things irrespective of their spatio-temporal determination. A thing has two aspects--one that is universal (s-am-anya), and the other particular and individual (visi.s.ta), it is shared by no other thing in the world. The first is amenable to the perception of ordinary beings, but the second or the particular and distinctive nature of things can be grasped by artistic imagination alone. Thus, if the things as portrayed by the poetic intuition appear not to be in harmony with the way they appear to ordinary mortals in their cognitive acts, they must not be denounced as false.

It might well be that the things as they are perceived by ordinary folk are themselves false or mere appearances which hide beneath them the true intrinsic essence of things. The poet's imaginative insight removes the variegated and multiform veils covering the inner reality. For this reason artistic imagination is ranked highest among all the possible cognitive faculties--perception, recollection or reasoning--by ancient Indian thinkers. As poets and artists are possessed of this rare faculty, they are regarded as supreme amongst wise men, even above scientists and philosophers. In this context, the observations of a distinguished Western critic on the nature of imagination, particularly of the Promethean type, may be quoted as they so closely resemble the findings of the early Indian thinkers on the subject:

We have found the stolen fire identified with reason and knowledge, but it is probably better to identify it with the symbolic imagination: We have not grown so accustomed to the creative power of imagination as to think it common, in the nature of the human case, like knowledge or reason. We think imagination a wonderful power, unpredictable and diverse, and we are satisfied to call it divine and to ascribe to it an early association with transgression. A Promethean says of it that it is the most precious part of man, perhaps the only precious part, the only respect in which man's claim to superior character is tenable.

This intuition of the artist is comparable, indeed almost identical, with the Yogic intuition caused by intense concentration of the mind as defined by Patanjali in his Yoga-S-utras. The poet is a Yogin and the creative process is a form of yoga. He intuits the things entering his universe in a state of trance or sam-adhi. Just as the Yogin finds endless transcendental bliss by probing into the inmost essence of things that are the objects of his meditation, so the poet and artist experience supreme bliss upon intuiting the nature of things represented in their works of art. V-amana, in his K-avy-ala.m-k-ara-S-utra (I.3.17 and III.2.1), stresses the importance of this essential factor of poetic creation, namely, concentration of mind (avadh-ana or sam-adhi) by withdrawing inward the faculties that tend to move outward towards external objects. This is also the view of one Sy-amadeva, who is referred to by R-ajasekhara in his K-avyam-im-a.ms-a. It is not true, therefore, that the objects revealed by artistic vision, be they vyakta or s-ak.sma, are not

true to their nature. Rather things as they are represented by the artist in his state of supreme meditation are more real than their so-called real counterparts in the objective world, which are mere shadows of the former. Plato's censure of artists cannot stand the test of critical analysis; indeed, it is quite the opposite. The verdict of the Indian critics is above reproach when they boldly and unambiguously assert:

n-asatya.m n-ama kiñcana k-avye yastu stutye.su-arthav-ada.h/
sa na param kavikarma.ni srutau ca s-astre ca loke ca//

The artist tries to give expression to his inner vision attained by virtue of deep meditation and trance through the medium proper to his art. Artistic representation is not at all, as usually conceived, imitation or reflection of an object. It may be regarded, however, as imitation or expression of the mental image of the artist conjured up by his imaginative intuition. With this mental image the impressions, feelings, sense of values and deep emotions are so indissolubly associated that the mental image is an altogether new creation; the resemblance that it apparently bears to things of nature is only superficial. The artist's mental vision is but an idealized version of the original object that gave the initial impetus to his act of intuition; by no means can it be equated with it.

According to the views of some epistemological theorists, however, the nature of artistic intuition has some correspondence with the perception which lies at the root of all our day-to-day activities. Their theory is that the thing out there which causes our perception is not identical with the object perceived. This is but a mental image with some likeness to the object outside. Therefore, ordinary acts of perception, too, are beset with the same problems of truth and validity which appear to be inseparable from artistic intuition. In fact, there can be no justification, at least technically, for an unbridgeable gulf between artistic intuition and the ordinary perception of laymen.

The main points of difference between the two lie in the fact that in ordinary perception, though the object perceived is a mental image, it is not enriched with the subjective spiritual content that is present in the idealized vision of the artist and marks it off as something *sui generis*. The image intuited by the artist at the moment of his creative activity is dissociated from its empirical determinants like space, time, personal relations, question of self-interest, profit and loss and a multitude of other similar factors which are invariable concomitants of our mundane experiences. As such, its intuition is always one of pure bliss, howsoever ugly, abominable or frightening it might appear outside the province of art proper. In art, however, the creative intuition that unravels the inherent mysteries of things lifts them to a transcendental level that has no real liaison with their counterparts in the world of ordinary experience.

As the personal factor is absent from the point of view of the artist and the connoisseur, both feel the same supreme ethereal pleasure caused by all genuine works of art. This total obliteration of all sorts of personal determinations is the outcome of the process of *tammay-ibhavana*, along with the consequent *s-adh-ar-a.n-ik.rti* of all the elements represented in a true work of art. These are the ultimate results of the imaginative vision that lights up the very depths of their being and as such is a source of transcendental bliss foreign to our day-to-day experience. It is clear then that artistic truth cannot be judged by the application of the same standards valid for our worldly experience. Rather, it is the experience itself that is of prime importance and is the goal and substance of artistic activity, be it of the artist himself or the connoisseur (*sah.rdaya*). In truth, the objective reality (*v-astavatva*) of the thing represented in art is of very little significance. Indeed, the desired experience and the state of transcendental bliss is

all the more delightful if it is the result of aesthetic experience achieved by means of apparently objectively unreal (av-astava) things conjured up by the artist's creative imagination (ap-urva-vastu-nirm-a.n-a k.sam-a prajñ-a); only aesthetically blind persons would condemn it as false and illusory. Thus the world of art is not untouched by questions relating to validity which invariably haunt the rest of experiences within the limits of the so-called objective world. The great critic Mahimabha.t.ta, the author of the Vyaktiviveka, declares unhesitatingly:

ten-atra gamya-gamakayo.h sacetas-a.m saty-asatyatva-vic--aro nirupayoga eva/
k-avya-vi.saye ca v-acya-vyangya-prat-it-in-a.m saty-asatyavic-aro nirupayoga
eveti tatra pram-a.n-antarapar-ik.sopah-as-a-yaiva sampadyata--iti//

Mahimabha.t.ta, thus, gives expression to one of the eternal truths regarding the secret of aesthetic activity in every sphere of art, whether it be poetry, drama, painting, sculpture or music.

The Real and the Ideal

At this point it might be asked legitimately: If the artist is completely free to create as he likes according to the dictates of his fancy and imaginary vision (pratibh-a), if he is not in the least bound by laws of causality and similar restrictions which rigidly govern the world of matter, why do critics and aestheticians attach so much importance to his knowledge of loka, or Nature in the broadest sense, as noted at the beginning of this paper? The early Indian critics stress on every occasion the utmost importance of the poet or artist having the most thorough and intimate knowledge of the external world, man and Nature; any deviation from the ways of Nature or lok-atikrama is severely condemned by them. An artist's ignorance or violation of the nature of external reality, due to his insufficient acquaintance with it is noted as a serious flaw by all great critics since all forms of art are mainly based upon loka. As Bh-amaha declares:

`tatra lok-asraya.m k-avyam'

Thus travesty of the facts relating to the external world of reality, a defect (do.sa) called loka-virodhi, is as much to be avoided as desa-virodhi, k-ala-virodhi, kal-a-virodhi, -aama-virodhi and ny-aa-virodhi. Not only has this faithful depicting of the external reality been highly acclaimed by eminent critics, Da.n.din in his K-avya-adarsa asserts with great force, though contrary views are not wanting, that svabh-avokto, which consists in portraying Nature as it is, is the foremost of all poetic figures. Rudra.ta, too, enumerates v-astava as the first of the four principal classes under which all the figures of sense (arth-ala.mk-ara) are comprehended. This v-astava has been defined by him as vastusvar-upakathana, and it comprises twenty-three poetic figures in all. Da.n.din, again, mentions k-anta as one of the ten poetic excellences (k-avya-gu.na) which constitute the very soul of poetic composition of the Vaidarbha school; its essence consists in the faithful representation of the nature of things as they are viewed in the world, and this has been recommended chiefly in cases of reportage as also of description. As he lays down:

k-anta.m sarva-jagat-k-anta.m laukik-arth-anatikram-at/
tacca v-art-abhidh-ane.su var.nan-asvapi d.rsyate//

According to Dandin the reverse of this, though much in favour in the rival school of the Gaudas, is a positive defect designated as atyukti or hyperbole. Thus, faithful representation of external reality or Nature is viewed as supreme excellence in poetry and all other forms of art; any departure from it is severely condemned.

It might appear from the pronouncements just quoted that Realism was recommended by the critics and practised by artists and poets in classical India. But this was not the case. Though conformity to Nature has been extolled by the ancient Indian philosophers of art, this conformity must not be confused with blind imitation or copying of external reality. The artist had the freedom to depart from the nature of reality as it appears to our intelligence in the ordinary world.

The poet, even when dealing with historical themes, can introduce events that never happened. The innovations, however, must always be made with a view to the emotion (rasa) in question; they must have propriety (aucitya) in respect to the emotion to be evoked (rasocita). - Thus from the aesthetic standpoint the only real thing to be kept in view by the artist is the emotion and nothing else. If description of external reality with scrupulous faith is not conducive to evoking the emotion in question, the artist should not cling to such a procedure; he would be fully justified in deviating from objective reality and introducing novelty even by distorting the things as they are, provided the emotion can be evoked by this departure. The poetic conventions (kavi-samaya), as they are called in Indian literary criticism, are apparently flagrant violations of objective reality; yet, as expedients to attain the aesthetic ideal, namely, emotional relish (ras-asv-ada), they are much more real than the so-called naturalistic approach to the external world. Thus, propriety (aucitya) was the basic principle governing the process of transformation or reflection of Nature or external reality in art. It was lack of propriety (anaucitya) that was to be condemned in a genuine work of art, even if it was accompanied by a scrupulously faithful portrayal of the world of reality.

From the standpoint of common sense, then, all representation of Nature in art was idealistic. From the standpoint of the artist and art connoisseur, however, it might be looked upon as the very essence of the most pure Realism, insofar as the artist and the aesthete seek to realize through such representations, however distorted they might appear to ordinary intelligence, the only real thing, the rasa, of which the external reality is but a crude garb and embodiment. Art is but the bodying forth, the sprouting of the seed of emotion, which is its very soul or spirit. Similarly, according to Monists of the Advaita School of Vedanta, all this universe is nothing but name and form (n-ama-r-upa); it has only illusory being and conceals under its sheaths that core of endless bliss (-ananda) and consciousness which alone is Real. Indian artists and art-critics, therefore, while admitting the importance of the external universe and man as objects of representation in works of art, did not consider Realism as an inviolable creed in artistic creation. Realism or Naturalism, in the strictest sense of the term, was but a misnomer.

To them, every object of the external world is transformed, modified and arranged from an altogether new perspective in the course of the creative process under the guiding spirit of the artist's soul. The artist's emotions, values, impressions, reasoning, and every conceivable spiritual element are as if in a crucible only to take new form and shape in the work of art. Thus, it is foolish to apply dichotomies such as matter and form, words and meanings, poetic embellishments and things embellished, and so on, which are the commonplace of every schoolbook on art criticism. Indian thinkers, though scrupulously and monotonously maintaining in their texts these methods of classification and abstraction, never lost sight of the ultimate truth of artistic creation and aesthetic representation, both of which were indivisible and unanalyzable to the artist and the connoisseur respectively. This basic truth has found expression in a beautiful couplet of Kuntaka's Vakroktijivita, which deserves to be quoted here:

ala.mk.rtir ala.mk-aryam apoddh.rtya vivicyate/
tadupayatay-a tattva.m s-ala.mk-arasya k-avyat-a//

Thus far we have dwelt at some length on the 'objective correlate' of a work of art. As observed in the beginning, however, without the subjective aspect, the poetic or artistic intuition, no creation is possible. In truth all works of art are but objectifications or hypostatizations of the spiritual vision of the artist, which is another name for pratibh-a in Indian aesthetics.

It is the ideal Truth, the ideal Beauty, the Reality that is ideal in all the subtle nuances of that highly equivocal term which the poet or artist intuitively by virtue of his spiritual vision with the aid of his "mind's eye." It is that Truth, that Beauty and that Reality which finds expression through the various media in different forms of art. The essence of that inner reality lies in rasa or the emotional experience of the artist and the connoisseur. Around that nucleus, of course, through the impressions, varied and multitudinous, inherited or acquired on the basis of the artist's empirical experience, all of which undergo a sort of catalytic transformation at the touch of the magic wand of his spiritual vision. Thus, the creative Process is always selective and, as such, idealistic; it is never realistic or imitative as is popularly conceived. The artist must, perforce, be a keen observer of Nature, of the external reality, in all its infinite multiplicity and minute details. His way of observation, however, his mode of looking at things animate and inanimate, abstract and concrete, is always determined by his emotional bias, which is but another facet of his spiritual vision itself.

Thus, Realism and Idealism are inextricably blended in the creative act of the artist. It is then, permissible to characterize artistic creation as a mode either of Realism or of Idealism provided we are conscious of the essential reservation, namely, that they refer respectively to the objective and subjective counterpart of the artist's approach to Nature. Yet, taken in its entirety, the work of art and the artist's creative act is basically transcendental; it cannot be touched by these narrow concepts which are insufficient to explain satisfactorily even our day-to-day empirical experiences. It is that inner vision, or pratibh-a, which is the be-all and end-all of every genuine artistic creation. External reality, with Nature and man as its constituents, is nothing but an indispensable element for realizing the spiritual content of art, a helpful expedient towards suggesting rasa which, according to the greatest Indian theorists of art and aesthetic criticism, is identical with the Absolute or Brahman.

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NOTES

1. All this has been profoundly expressed by Bhatta Tauta, the eminent preceptor of the great Abhinavagupta, who have been cited in the Abhinavabh-arat-i on the N-atyas-astra, Chap. XXIX. It is this transcendental aspect of art which has been eloquently emphasized by Bharata, Abhinavagupta, Bha.t.tan-ayaka, and Mammata in their celebrated Treatises on Poetics and Dramaturgy, by Bhoja in his Samar-anga.na-S-utradh-ara with reference to the art of painting, and in such texts as Hayas-ir.sa-Pañcar-atra and Is-ana-siva-Gurudeva-Paddhati relating to architecture.

EPILOGUE

SANTOSH SENGUPTA

It is appropriate for two reasons that this international conference on 'Man and Nature' has been held at Santiniketan. Firstly, Visva-Bharati was intended by its founder, Rabindranath Tagore, to be a meeting-ground of scholars from different parts of the world: 'This is the Visva-Bharati where the whole world makes a home in a single nest.' Secondly, it is in the serene environment of this 'abode of peace', hallowed by the memory of his father, Maharshi Debendranath Tagore, that the poet-philosopher mediated on the meaning of man and nature. These continued reflections resulted in significant disclosures whose nature I shall indicate briefly.

1. The fact of the internal or essential unity of man with nature is variously expressed in Tagore's writings. He used the analogy of the bud and the blossom to illustrate the internal character of the connection. For him, the Indian Mind has never hesitated to acknowledge its kinship with nature, its unbroken relationship with all. Tagore sought to support this thesis on different grounds. Of these the most basic was ontic, for he was at pains to show that the unity of man with nature has its source in the One: 'Unity comes from the One.' This monistic commitment was defended by the poet-philosopher throughout his life. The One from which the different levels of unity are derived is God, the Supreme Person with whom man and nature are in close union or harmony.

Tagore stressed this in a series of metaphors and similes. In turn, man and nature are expressive of the divine Reality, the Supreme Person, on which they are grounded. Rabindranath's characterization of the ultimate reality as person, which is typical of theism, has support in the Vedas and the Upanisads. 'Nothing is better than the Person, he is the ultimate Goal,' says the Katha Upanisad. Distinctively, this theistic conception of God provides the basis for the intimate connection between God, man and nature.

It is experience or vision that testifies to the oneness of the Real or the reality of the One. In his Religion of Man the poet claimed that he had this experience at the age of eighteen: 'When I was eighteen a sudden spring breeze of the religious experience for the first time came to my life and passed away leaving in my memory a distinct meaning of spiritual reality.' The experience was an awareness of integration of the triad: man, nature, and God. It is significant that this spiritual experience is not one of complete absorption into God. In God man and nature are not merged, but preserved in their deeper meaning or significance. Integration is not negation but the deeper affirmation of what is related. Tagore consistently opposed the mystical and the pantheistic denial of the distinctiveness of man and nature; the theism he affirmed can be characterized as integral. One bond, one Truth, unites God, man and nature. 'The world without and the intellect within us--these are the manifestations of the same Sakti,' he states in Dharma. Having known this, we experience the unity of nature with the human mind and the unity of mind with God.

2. Tagore affirmed the unity of man with nature on the basis, not merely of their having God as their source, but also of the relationship disclosed in their actions. This relationship is of two kinds: communication and communion, each having different levels. As this is not the place to discuss the modes of relationship, I shall only highlight some essential points of Tagore's view. He urged that the very possibility of communication between man and nature presupposes that the one is not alien to the other. Broadly speaking, there are two levels of communication--one

cognitive and the other existential. The mode of the development of human knowledge in interaction with the natural world indicates the importance of the latter on the cognitive level. Similarly, what is in nature acquires significance in relation to human consciousness. As Tagore put it in Religion of Man, 'What we call nature is not a philosophical abstraction but what is revealed to man as nature.' He was consistently opposed to the realist's positing of nature as external and unrelated to human consciousness. This sphere of externality is meaningful only as related to consciousness. The human faculties are so constituted that they admit of natural response to varied phenomena of nature.

Tagore was at pains to show the nature and extent of the correlation between changes in nature and the variation in the psychic life of man. Nature is as varied as man's mental life, and there is a correlation between the unity of the human mind and that of nature. The development of the human mind depends upon participation in nature, which in turn conditions the nature of human development.

This second level of communication embodies significant insights into the bearing which the relationship with nature has upon the development of man. It is not merely the cognitive, but also the affective and the conative functions of man which develop as a result of the regulating functions of nature. As one gazes upon the starry sky or watches the vast expanse of the sea one invariably experiences an expansion of consciousness with resulting development of feeling and will.

In view of this guiding influence of nature upon human consciousness the poet initiated an educational experiment at Santiniketan. Nature, he consistently maintained, can be the preceptor. The provision for open-air instruction and other modes of contact with nature was not intended as a ritual, but as the necessary preparation for the natural development of the human faculties. According to Tagore children have a sub-conscious mind which like a tree has 'the power to gather fruit from the surrounding environment.' He consistently warned against the imposition of rules and text books in dissociation from the surrounding environment: 'We teach the child geography but rob him of his earth.'

3. The second mode of relationship with nature, communion, unlike communication, has the characteristics of depth, inwardness, and disinterestedness. This is in evidence on the level of human relationship. Communion has two forms: sympathy and love, which is complete communion. The emphasis on man's loving relation with nature is evident especially in Rabindranath's later poetry. Love is not merely attachment to the beloved, but also insight into his or her nature or uniqueness, that is, it is both feeling and knowledge. In the love-experience of nature man has a sense of attachment to, and also an apprehension of, the object of love.

Tagore considered possible a loving relation with nature although it neither is a person nor has the qualities of a person. He opposed an animistic interpretation of nature on the ground that it ignores the distinctiveness of natural phenomena. While his writings employ metaphorical expressions indicative of nature's having psychological levels, these are not to be understood as descriptions of natural phenomena, but as indicators of deep affinity between man and nature.

Communion with nature, like communication, can be viewed on both the cognitive and the essential levels. Patently, communion on either level has depth and meaning which communication by the nature of the case does not evince. On the cognitive level communion yields an apprehension which can be characterized as a depth-experience of nature. What Tagore stressed throughout is that this experience or knowledge is the source of insight into the selfhood or inner being of the person who is in communion with nature. In one's love-experience of nature there is a disclosure of the meaning of one's own being. This is in evidence on the plane of

human relationship where in man's communion with the beloved there is an unveiling or unconcealing of certain dimensions of one's own being. Phenomenological descriptions of love indicate how the same act of communion is the source of self-knowledge and of disclosure of the other person. Self-discovery, through finding oneself in the other, confers meaning on both: the meaning of one's personhood enhances the significance of the person. This cognitive relationship is typical of man's communion with nature. The way the secrets of one's being are revealed in loving relation with the beauty of nature has been highlighted by the poet in some of his significant writings.

Communion on the existential level is in evidence on the model of man's self-development in his experience of communion with nature. This is the source, not only of his self-knowledge, but of the harmonious development of his existence, because such conditions of self-development as dissociation from the way of ego and the dominating influence of passions and cultivation of the attitude of detachment are prerequisites for communion with nature. Communion or love is not a natural possession, but an ideal to be attained. Tagore consistently maintained that the ego which separates one from other persons and nature has to be overcome.

Similarly, the other influences which obstruct the expansion of human consciousness, which conditions communion, need to be transformed. The transforming effects of communion with nature on the existential level are evident on the level of man's communion with man. Perfectionistic ethics affirms that self-realization or development is possible through sacrifice and love.

One important positive condition of man's communion with nature is the proper development of his aesthetic sensibility. Because this sensibility is ordinarily dormant in man, he does not have the attitude of communion with nature. He responds to, or communicates with, the beauty around him, but does not have the love-experience of the environment in question. Persons such as poets and aestheticians who have properly developed what is latent in man can have an intimate union with the phenomena in question.

One distinctive characteristic of man's communion with nature emphasized by Tagore is disinterestedness. In the experience of communion with nature, man is free from the interested attitude of using this as a means to the fulfillment of certain ends. This apprehension or experience concerns a natural phenomenon as the end in itself; there is no motivation to control it for some gain. In stressing the disinterested way of man's love of nature Tagore distinguished between love-experience and love-adventure. The latter, considered as typical of the use-approach to nature, is exemplified in Robinson Crusoe's solitary contact with nature in order to gain something from her, 'coaxing her, cooperating with her, exploring her secrets, using all the faculties to win her help.' It follows that the joy or the bliss which results from love of nature is equally disinterested.

4. Thus far, I have discussed the nature of the relationship between man and nature, indicating the bearing of their relationship on their meaning. Now, Man and Nature exemplify two spheres of unity which are so related that one can have full or adequate meaning only in relation to the other; neither constitutes a separate sphere of meaning. Tagore's position can be understood only if one relates his rationale of the relationship between man and nature to its ontic grounding discussed briefly above. The thesis is that the One Supreme Spirit or Person is the source of their relationship or unity. This notion of ontic grounding has an existential import whose understanding illumines in a new perspective the nature of the unity of the triad, man, nature, and God.

God is not merely the transcendent or the external source of man and nature, but is immanent to both. This means that what is grounded therein is a natural manifestation or expression of God. Man and nature, then, as expressions of the divine reality have adequate meaning, of which God is the ultimate source. This is the more evident if we view God, the Supreme Person, not merely as the ground but as the goal of man and nature. What differentiates man from the lower creatures is not merely the sense of his limitedness, but the urge or the longing for higher being. As a result of dissatisfaction he has a directedness or thrust to what exceeds his existence. The supreme object of this human longing or transcendence is the highest being, the Supreme Spirit, in union with whom there can be complete fulfillment. In the context of this human situation constituted of discontent, transcendence, and fulfillment one can grasp the real significance of the relation between God and man. Similarly there is incompleteness in nature, which is characterized by incompleteness and imperfection. Its beauty is transcendental and has complete fulfillment in God--the infinite Person. One important bond of man's unity with nature is, therefore, the need for total fulfillment through transcendence.

Conversely, God relates himself to man and nature in response to his need. It is important to note that God's expressing himself in this response is essential to his nature because God is love itself (*Rasa vai sah*). In the exposition of Tagore's view proper emphasis has not been laid on this fulfillment situation. The relationship between God, man and nature represents a movement which has both centrifugal and centripetal character: God not only creates, but also fulfills. He is essentially God of man and nature and can no more be separated from them than they can from Him. The enrichment of the three in interrelationship reflects the integration of the triad. That God does not negate but affirms in greater depth both man and nature was aptly stated by Tagore in his Personality: 'The infinite and the finite are one as song and singing are one,' and in *Sadhana*: 'Music and musician are inseparable.'

From this it follows that God can be realized through both man and nature. The Upanisads onesidedly emphasized the approach to God through one's self-hood, as is evident from the nature of the classical mahavakya system. What is distinctive of Tagore's integral theism is his equal recognition of man and nature as modes of union with God. 'Thou art the sky. . . . But there where spreads the infinite sky far to take her flight in reigns the stillness with white radiance.' That spirituality, according to Tagore, requires a balanced strength of the within and the without is indicative of the synthetic, total view of his spirituality which reflects his vision of the integration of God, Man, and Nature. This vision is the basis of the religion of an artist.

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