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Chance, Probability, Indeterminacy and Knowledge

DAYA KRISHNA

One can hardly think of 'probability' without invoking the idea of 'chance', for the former is parasitic on the latter as it denies that the event could be due to 'chance', thus giving the latter an honourable place in the context of our attempt to explain and understand phenomena. Yet, the idea that the phenomenon we are trying to explain or understand is due to 'chance', is just to deny that it can be explained or understood. One may defer and hope that the appearance of the whole thing being completely random or 'chance-like', but this cannot help as the idea or the notion would persist and reappear, being in-built in the contention that something is not due to chance as it might prima facie 'appear' to be.

But what is this notion that haunts all knowledge, which increasingly 'sees' itself not in terms of 'certainty' but, rather, as essentially 'probabilistic' in nature. The ascription of 'probability'—it should be remembered—applies only to a set of different occurrences where space-time variation is not supposed to affect the 'identity' of the phenomenon concerned and where the earlier 'occurrence' is not supposed to make any difference to that which occurs later. Not only this, it is also assumed that sets of event-occurrences of a type other than the one whose probability we are talking about, have nothing to do, or have no significant effect on it. This is a radical requirement, as 'knowledge' in other fields-even probabilistic knowledge—has to be kept out of consideration in determining the probability of the events concerned. It may be said that they are treated as 'constants'-at least for the purposes in hand, as happens in the case of all knowledge. But 'knowledge' in most domains is continuously changing, or at least not remaining 'unchanged', as the assumption obviously seems to imply. This desperate situation can only be saved by assuming an insularity between different fields of knowledge or that their 'effect' is of such a nature that it can be safely ignored for cognitive purposes.

Both the alternatives may be pragmatically useful, perhaps even unavoidable, but they seem theoretically unsound as they raise fundamental questions regarding the *relation* between different fields or domains of knowledge and between their 'knowledge' in the minds of men.

'Knowledge' has to be a unity if that which we try to know is not to be divided into 'unrelated' realms that will have to be treated as 'incommensurable' with one another in the most radical sense of the term. The 'unification' of 'knowledge', and hence indirectly of that which is supposed to be 'known' may be attempted in terms of 'radical reductionism' where one kind of knowledge is really regarded as 'knowledge' with the obvious implication that only that is 'real' which is 'known' in that knowledge, and all the rest is 'superstition' or 'pseudo-knowledge', i.e., something masquerading as 'knowledge' but is not really so, and that the 'object' which this knowledge claims to know is a pure illusion, created by the 'subjective' conditions of human knowing, i.e., the senses, the mind, the intellect and that which superimposes the distinction between 'value' and 'disvalue' on that which just 'is' and could not have been otherwise. The mystical and spiritual traditions all over the world had opted for this solution long before the present-day alternative which sees only 'matter' as 'being' 'really real' and the knowledge concerning it alone as knowledge in the 'really true' sense of the word.

The two alternatives have been attempted to be held together by the acceptance of two different kinds of knowledge relating to two radically different realms, incommensurate in principle with each other. The Indians called them paramārtha sat and vyavahāra sat, the latter being that whose truth had to be tested through the successful achievement of 'ends' as the result of action based on that knowledge. This is the pragmatic criterion of 'truth', called in the Indian tradition as pravrtti sāmarthya, or effective efficacy in the context of the outgoing movement of consciousness in the pursuit of the fulfilment of the ever-expanding, unchanging craving it suffers from due to the illusion that it can be fulfilled by attaining the ends projected by desire rooted in imagination and taking

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The Cartesion division between res extensa and res cognitanse and Kant's division between that which is constituted by the a priori forms of sensibility, that is space and time and that which is not so, are rough analogues of the same in the Western tradition, though they are confined to the cognitive domain alone and miss its radical root in the 'desiring consciousness' that the Indian analysis sees as 'central' to the whole thing. The so-called primacy of the Practical Reason in Kant did not see the root of that 'practicability' in insatiable desire or craving, as was seen later by Schopenhouer in his dichotomy between the 'World as Will' and the 'World as Idea', where the 'Will' was understood as the 'Will to live', which later was seen by Nietzche as the Will to Power.

Between the acceptance or rejection of the two extreme alternatives, there is an spectrum of intermediate positions relying on the notion of 'emergence', 'relative autonomy of fields', and the distinction between 'conditioning' and 'determining' along with that between 'necessary' and 'sufficient' conditions in respect of causality.

The intermediate positions, though seemingly sensible, open a Pandora's Box of problems that appear insoluble, at least to a mind that feels uncomfortable with any admission of intrinsic and essential 'indeterminacy' of phenomena in any realm whatsoever as it makes it opaque to human understanding, even though it rebels against its application to the 'knower's' own subjectivity as-if it were to be accepted-it would render the whole enterprise of knowledge meaningless and redundant. One may recall the problems created by Heisenberg's 'principle of indeterminacy' in relation to physical reality studied by the science of physics where 'strict causality' was not only supposed to obtain but make it 'intelligible' also. The problems, it should be noted, did not arise from a reflection on the activity of 'knowing' and the presupposition by it of such virtues as honesty, truthfulness, objectivity, openness, cooperativeness and the myriad others which are required even for minimally engaging in the enterprise. Strangely, Kant only thought of 'freedom' in the context of morality and not of the enterprise of 'thinking' or 'philosophising' in which he was engaged. Had he done so, he would have realized that without postulating some such thing, the problem of error or of truth and falsehood would hardly make sense in the context of knowledge and there would be little reason to require not only that one ought not to falsify or deceive or fudge the evidence, but also that one avoid committing 'fallacies' in the arguments that one gives in support of one's position. Knowledge enterprise is a moral enterprise, and it is surprising that thinkers who have thought about it, have seldom paid attention to this aspect of what they were doing.

But to bring in morality at the heart of all of man's enterprises, including that which is involved in the pursuit of knowledge, brings an essential, inalienable indeterminacy at the heart of that which is attempted to be known, and renders the question of the 'truth' or 'falsity' of that which is claimed to be 'knowledge' radically different from the way it has been understood uptill now. 'Truth' has to be thought of now not in terms of 'certainty' but 'probability' and the idea that a particular or individual phenomenon may not conform to it, is in-built and becomes an integral part of the notion of knowledge itself. The counter-instance does not render the 'knowledge-claim' to be false, as it was thought of when knowledge was conceived of as something universal, necessary and certain, as it had been seen since the beginning of thought on this matter.

The idea that all knowledge is, and has to be, essentially 'probabilistic' in nature, however, not only undermines the traditional idea of knowledge in a fundamental sense but also introduces an idea at the very centre of 'thinking' about knowledge which is inimical to it. The idea of the 'probable' is parasitic on the idea of 'chance' as it is inconceivable without it. A probabilistic account assumes that phenomena can, and do, occur in a purely 'chancy' manner in the 'objective' world, for 'probability' is not only the denial of 'chances', but also the positive assertion that if the phenomenon in question were really happening due to 'chances', there will be no need to postulate 'hidden' factors to explain the frequency of occurrences in a specific manner and in a particular direction. The actual 'observed frequency' in a finite set of occurrences, it is said, is 'weighted' against what would have happened if the phenomenon were to occur purely by chance.

But to say that events could have occurred by 'chance' is to destroy the idea of 'knowledge' altogether as it asserts that there

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are, and can be, phenomena that cannot be known even probabilistically.

That both 'chance' and 'necessity' are required to understand phenomena was argued by Monod in his well-known book entitled Chance and Necessity. The fact that 'probabilities' are actually objective and yet continually changing because of the 'actualization' of possibilities, was argued by Popper in the volume entitled The Schism in Physics. Even earlier, Bergson had argued that there is always an essential indeterminacy about something that has not yet happened, but when it has happened it cannot but be seen retrospectively as being 'necessary'. Kant, even earlier, had shown that the modal category of 'necessity' was a dialectical synthesis of the categories of 'possibility' and 'actuality'. Yet, none of these thinkers seem to have asked what exactly could be meant by 'possibility', 'indeterminacy' or 'chance' in the context of what it means 'to know' or what are its presuppositions. The temporal distinction between 'past', 'present' and 'future' is at the heart of the distinction and that the structure of human consciousness is involved in it is shown not only by the duality of 'knowledge' and 'action' and the interactive interrelation between them, but also by the fact that human consciousness also thinks of 'counter-factual conditionals' within the 'understanding' of 'past' or 'which has happened', as in the case of biography or history.

The problem raised by the 'history' of earth as in geology, or of the cosmos raised in cosmology are different *only* in one sense from the history of 'living beings' on this planet as studied in the biological sciences which inevitably have to see it in some sort of hierarchical value-judgments involved in it. This is generally called the 'evolutionary' perspective in 'life sciences' but even those who tend to question the idea of 'evolution' on grounds of the extreme improbability of so many 'chance-coincidences' occurring simultaneously to explain the emergence of species, which require such interdependence between them that one cannot be conceived to have come into being without the others, have to accept some sort of a valuational hierarchy between them.

Strangely and paradoxically, the 'valuational judgement' involved in any consideration of the world of 'living beings' tends to infect the 'non-living' world in such a way that it has to be seen as con-

ducive to the fostering, enhancement and enrichment of 'living forms', something that is 'masked' these days by the term 'ecology'. The distinctions obtaining in what we call the world of the 'non-living' do not, and cannot, have a valuational hierarchy inbuilt in them without reference to the world of living beings, including animals and plants, even though one may meaningfully talk of 'evolution' since the Big Bang in the world of matter studied by astronomy, physics and chemistry.

To see the 'universe' in terms of 'life' on this planet is one thing, and to think of it without reference to the latter, quite another. But even the world of 'living beings' begins to be seen in a different way when we bring 'human beings' into the picture. A new value-hierarchy takes place which 'sees' the non-human world of living beings in the same way as the world of 'non-living' was seen in terms of the 'living'. And, as 'history' of man takes over and societies, cultures and civilizations are built, new 'value-hierarchies' come into being where man and his values become central to the entire cosmos, and the latter is judged in terms of the former. The 'anthropo-centric' merges with the cosmo-centric and each is seen not only as giving 'meaning' to the other, but also as being meaningless without it. Teleology takes over, and man cannot 'think' of the cosmos or the universe except as leading up to him whether in the theory of creation as in the Bible, or the theory of evolution as the non-creationists want to see it.

But in the inanimate world which practically constitutes the whole cosmos, what actually occurs in the sequence of occurrences out of all the 'possible probabilities' has no intrinsic significance except when seen in the context of its possible effect on 'living forms' that exist on earth or anywhere else in the universe. The element of 'chance' which must have played a part in the 'history' of the cosmos has to be seen as 'neutral' except in the perspective of 'life' which, if it were not to obtain in the universe, would make the question regarding the 'direction' of the chance 'meaningless' in principle. 'Order' may still be seen as arising out of 'chaos' naturally, as Ilya Prigsgogine has persuasively argued in his book *Order Out of Chaos* on the subject. But 'order', even when defined in 'purely' objective terms in relation to 'matter', can have no 'valuational' overtones, except from a 'conceptually aesthetic point

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of view' of the thinker who 'thinks' about it. In case one wants to claim the 'objective truth' for this 'subjective' judgment, one would have to 'see' nature as an 'aesthetic object' and 'natural processes' involved in its production as akin to those that produced the famous Zen gardens of Kyoto or structured gardens and landscapes elsewhere. Otherwise, it is difficult to see how Nature qua 'nature' would prefer 'order' to 'chaos' as there could be no ground of preference for it.

But the situation becomes radically different when 'chance' and 'probability' conspire to make the 'possibility' inherent in matter to become 'living' into an 'actuality'. The 'order', from now on, has to take the preservation, sustenance and maintenance of 'life' into account and cannot be 'neutral' in the matter as it earlier seemed to be.

The story is repeated at every level from plants to the human world, and not only the whole 'world' begins to be seen in terms of 'human survival' as the ecologists 'see' it, but also 'judged' in terms of the values and ideals man pursues. The world, instead of being seen as just 'given', to be 'known' as 'what it is', is seen in terms of what it 'could be', or 'should be', or 'ought to be'. Probabilities now become 'possibilities' and 'chance' that was earlier 'accidental', now begins to be seen as the result of man's 'wilful intervention', bringing in 'teleological causality' into the picture and transforming the earlier 'chance mixture' of 'multiple probabilities' as seen from the hindsight of what actually happened into what could have happened.

Man emerges as the 'creator' of a 'world within a World' and civilizations get 'built' of which 'knowledge', among other things, becomes an integral part, shaping and forming the building of civilizations itself. This 'knowledge', however, is not just a knowledge of inanimate nature, but also of all that which has come into being since 'life' is supposed to have appeared on earth. This knowledge, however, is radically different as it is not 'understanding' but 'transformation' that is its centre. Plants and animals have not only to be domesticated, but 'bred' and transplanted and variegated in order to get something that is not only 'new' but also suited to one's taste and needs. The chemical sciences had already started doing this without realizing how what they were doing was

affecting the very nature of knowledge as it assimilates it to the ones already existing in the biological sciences. But as physics was still wedded to the old idea of 'seeing' knowledge as the knowledge of what was 'given', thinkers who thought about knowledge continued to think of it in the old way. Neither the biological nor the social sciences or the humanistic disciplines such as, say, history had ever been thought as what knowledge really consisted in; the division and the schism was underwritten by accepting two or three different 'kinds' of knowledge with their own methodologies, purposes and criteria of validation, having little to do with each other. Some thinkers drew a sharp distinction between the 'natural' and the 'cultural' sciences, forgetting the important differences within the former itself.

The slow revolution that occurred in the study of matter in the first and the second half of the twentieth century has gradually made physics see itself in a different light as it was increasingly driven to see inanimate nature not as something 'pre-given' and to be 'known' as 'what it was' but to be transformed in the service of the creation of 'new' forms of matter, actualizing the hidden potentialities and possibilities lying therein, but not actualized up till now, at least in the 'nature' as we knew it. These new states of matter beyond the already known ones, i.e., of solid, liquid and gaseous have already been announced. So are those which have come to be known as 'super-conductivity' and 'super-fluidity'. The assimilation of physics to chemistry or rather the way chemistry tries to understand 'matter' is happening at such a fast rate that one wonders what would happen to the notion of 'knowledge' as it has been conceived up till now.

Knowledge begins to be 'seen' as giving one, not 'truth', but power, power to achieve 'ends' that one desires to achieve and, above all, only power, just power for power's sake, for the simple reason that 'power' ensures or, at least, is a necessary precondition for the realization of anything else.

The subordination of knowledge to 'desire' in all its varied forms makes the 'seeking' for knowledge determined not by any 'ideal value' immanently involved in it, but by something 'outside' itself and determined by it. The 'determination' is not just in the direction that the 'knowledge enterprise', or rather the 'knowledge

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But 'action' has a logic of its own as it assumes, at the human level, a large, independent, imperfectly 'known' number of variables that its 'causality', even in a probabilistic sense, is difficult to determine, something that makes the 'expected outcome' essentially indeterminate, and hence unpredictable in principle. A 'knowledge' that cannot even probabilistically 'predict' in the strict scientific sense of the term, is not supposed to be 'knowledge' at all and yet this is what 'knowledge' becomes when it becomes the 'slave' of 'desire', and not the pursuit of 'truth' which it was always believed to be, even if the belief was founded on an 'illusion', structurally projected by the nature of the 'activity' itself.

Structurally projected illusions, however, are not confined to knowledge alone. They in fect all the 'ideal' seekings of man as, without them, the 'infinity' involved in the pursuit would become meaningless as it is they, and they alone, which give 'form' to the activity and yet, 'desire' is the most 'uncertain', 'inconsistent' and 'fickle' of all things and to be determined by it is not to be 'determined' at all, or determined by chance vagaries of a wind that blows where it listen and changes all the time. The firm direction that desire takes from the pursuit of any 'ideal end' or 'value' is disturbed and disrupted by the arbitrariness which all power encourages and its eternal temptation is to 'test' itself and find if it can achieve what appears unachievable, and in this it always stumbles against the 'will' of others and the limitations imposed by the nature of 'nature' that surrounds it all around, resulting in delusions of 'omnipotence' that dreams of denying not only the freedom and independence of others, but also the 'nature' of nature itself or the 'reality' that underlies it all.

Yet, knowledge, whether sought in the service of desire or power or anything else or pursued for its own sake, is always fraught with unpredictability and uncertainty that alone make it interesting. The 'certainty' of knowledge is replaced by imagination, which 'opens' doors to 'possibilities' based on that very knowledge and make it have a recognizable 'identity' of its own. The identity and unity of anything involved in time can only be achieved if it is seen in terms of a 'narrative' from the past to the present and,

simultaneously, as the unfoldment of some transcendent 'ideal' which is sought to be realized and actualized by human effort, both individual and collective, in the present and the future. The 'narrative' that is 'built' gives it a determinate form and a probable identity, while the intrusion of the 'future' and its dependence on the 'will' and 'choice' of multiple actors, in isolation and interaction, give it an 'openness', indeterminateness and unpredictability which itself is a result of the 'possibilities' opened by knowledge and the probabilities that diverse choices that might have been made on that very knowledge and yet determined not by it alone, but rather by that silken web of desire which imagination weaves on the basis of the memory of that which one had once tasted or experienced or 'heard' from somewhere or 'read' in a fairytale or a book on 'utopia'.

But neither the 'knowledge' nor the imagination, nor the 'memories', nor what one has 'heard' or 'read', or the 'choices' made by the multiple actors in a situation ever remain the same. They may not even be complementary or harmonious with one another, but be conflicting and antagonistic in nature. All action is a 'wager', a 'risk', a 'gamble' and—at a deeper level—it is this that 'determines' the difference in the 'choices' made by different actors. Those who seek security are different from those who can take 'risks', or can afford to do so.

The 'probability calculus', thus, is not determined by a 'rational' consideration of 'things', but rather by factors that are too diverse and imponderable, and the 'outcome' always uncertain, not because of the indeterminacy involved in the situation, but because the 'result' is a 'chance-product' due to the convergence of multiple 'choices' made by different actors based on difference in knowledge, or the different 'weightge' given to elements in the same knowledge, coupled with differences in all the other variables mentioned above.

Yet all this ceases to matter or be relevant once the 'result' has come into being, and the 'retrospective understanding' of it is undertaken in terms of the situation prevailing before it. All talk of probability, plausibility or 'chance' has ceased, and the 'certainty' of 'is' has taken its place. This has now to be accepted, taken into account and its relation to information and knowledge

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once the 'result' has lerstanding' of it is ig before it. All talk eased, and the 'cerow to be accepted, tion and knowledge available to one assessed in the light of the ends or purposes one wants to achieve. It may close the doors in a decisive way, as happens when someone dies, or something of the same sort happens about which not much can be done. But even then, in the context of action it has to function in a different way than in the context of knowledge. Looked at retrospectively, it reveals a chain of almost inexorable necessity called 'fate' or 'destiny' when it relates to human beings. Something which changes almost into its 'opposite' when seen as a 'prospective projection' into the retrospected past. The historian does this all the time and he does not know whether to see it all as 'fated' or 'destined' that could not have been otherwise, or to see it, at every point, as being determined by 'chance' in a play of probabilities seen by each actor in the drama differently. The 'subjective' and the 'objective' factors are intertwined so intimately that each actor's 'perception' is determined in a different way not only by the information or knowledge that he has or the 'ends' he wants to pursue or realize but, even more importantly, by his speculative judgment resting on his imagination of what the others will possibly or probably do.

Understanding man's 'past' or 'present' involves all these, even though each 'concept' seems to be at loggerheads with others. The situation can be seen as being even more complex if 'knowledge' itself is 'seen' not as something 'given', but as something that is sought, like many other ends of human activity, by the collective effort of humankind. But the more intractable problem is whether this cluster of concepts with 'in-built' opposition or tension between them is required for 'understanding' or 'articulating' that which we find in the non-human world.

This world, as everybody knows, is internally divided between the 'living' and the 'non-living', the former being further divided between the 'plant' and the 'animal' worlds. The 'non-living' world also presents radical differences in different states, or rather 'species' of matter which seem 'united' only be the fact that we call them by the same name, i.e., 'matter'. To complicate matters further, this realm is also said to have a 'history' from the 'Big Bang' onwards and, what is worse, man himself has increasingly begun to play an 'active' role in creating 'new' forms of matter even at the level studied by physics, let alone that which was the subject-matter of chemistry where the story has been known for quiet some time.

To bring in the notions of 'chance' and 'probability' in this realm would be to see the 'history' of the universe not only in a new way, but to see its 'future' almost in the same way as we do when 'living beings', specially 'humans', become the subject of our 'speculative imagination', i.e., with hope and fear.

Yet, these emotional uncertainties are there only when we see the projected possibilities in relation to their effect on life in general and humanity in particular. The concern with 'ecology' or what may be called the 'bio-habitat' required for the survival and flourishing of 'life-forms' with their mutual interdependence is premised on this thought. But even if this perspective is set aside for purposes of thought, the question will remain as to how to 'think' about the future course of anything, be it 'living' or 'non-living', and even whether they would remain the *same* as they are, or could even do so if they or anyone else wished it so.

The 'life-centric' perspective is in-built in our thought, whether we see the whole 'non-living' universe as leading up to the emergence of life or mind or reason or moral consciousness or freedom or emergence of the transcendent, i.e., 'that' which human self-consciousness perceives or thinks or imagines not only as including itself and everything else but as a 'completed totality', i.e., something to which the ideas of space, time and causality do not apply, or are totally irrelevant as it is 'imaginatively defined' in its terms. The imaginative postylational possibility of the total annihilation and destruction of all this would still 'see' the 'story' of the universe in terms of its 'coming into being' and 'ceasing to be' as if it was the central point of the story, even if it was totally contingent to that in which it arose.

Kant had dealt with this problem in the long chapter entitled 'The Teleological Judgement' in his Critique of Judgement and had concluded that the 'purpose' of the 'universe' could only be the achievements of 'freedom' which was 'known' to every human being in 'moral consciousness' which could not be conceived without it and, in fact, was identical with it. 'Freedom', in fact, presupposes causality or at least some sort of 'anticipated probability' without which human action would make no sense either.

Kant, of course, did not put it this way, nor did he conceive of the possibility that the very 'forces' which had brought 'freedom'

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into being might destroy it altogether, as happens all the time through death, disability and extreme illness. Freedom, he forgot, is a frail, fragile, evanescent 'bloom' permitted to arise and shine and create the illusion that the 'creation' was for its coming into being. That he could even think so, in face of his obsessive fear of any 'inclination' or 'desire' determining the will and an almost rational scepticism regarding the possibility of any one being even 'sure' that it was not so, is a miracle indeed.

Chance, contingency, probability and causality, thus, are at the heart of the understanding of any phenomenon, no matter whether it is 'living' or 'non-living', 'human' or 'non-human'. In the case of the world of the 'living', something else seems also needed for its 'understanding' because of that very characteristic we consider as 'distinguishing' it from the 'non-living'. It is difficult to exactly state this difference as not only we have always 'fuzzy', 'border line' cases where it is not easy to distinguish one from the other, but also because the two broad divisions within it, that is, those of the 'plant' and 'animal' world exhibit such differences that it is almost impossible to ignore them while thinking about the matter. One would not like to exclude 'plants' from the world constituted by 'beings' who are said to be 'alive' yet, unlike animals, they can hardly be said to 'feel' pleasure or pain, or to try to 'seek' the one and avoid the other. Nor do they display any inter-communication between them, as the animals perpetually seem to do. The lack of differentiation of sensory and motor organs and the resulting need for the coordination of their specific functions results in the absence of what we can only call an 'agentive centre' which appears to be the ground of both the seeking for pleasure and the avoidance of pain, and the 'inter-communicative world' they seem to build for themselves. The 'learning process' amongst many of the species is so obvious that its role in the 'self-development' and 'change' in the individual and its 'imitation' by others can hardly be denied except on grounds of some theoretical prejudice or predilection or 'decision' to regard all knowledge and understanding being of one type only. But, then, the banishment of the category of 'purpose' for understanding any phenomenon whatsoever would have to be extended to the understanding of the 'human world' which shares many of its characteristics with the animal world and, in addition, the building of society, economy and polity on the one hand and of cultures on the other.

The understanding of these 'worlds' cannot be done in terms of chance, contingency, probability and causality, as seemed to be the case with our understanding of the 'non-living' world, or in terms of the seeking for pleasure and avoidance of pain or the establishment of 'intercommunication space' and a learning 'field', as was the case with the animal world. We have to bring the judgment or distinction between true and false, right and wrong, good and bad, the pretty, or that which is pleasing to the senses, and that which is not and—at another level—that which is 'felt' to be so in the context of that which is grasped or apprehended not by the senses, but by thought, intellect, reason, understanding, imagination or intuition.

The distinction between 'appearance' and 'reality' brought into being by self-consciousness at every level distinguishes and demarcates 'human reality' from all the others that we know and, surprisingly, it obtains not only in the context of knowledge, but of 'feeling' and 'action' as well. Is it as it 'could be' or 'should be' or 'ought to be' can always be asked putting into question that which 'appears' in its immediacy and self-sufficiency.

This applies, paradoxically, to consciousness itself as even though it is the necessary precondition of all 'appearing', it loses its privileged, unquestioned position when it itself begins to be 'seen', 'felt' and 'experienced' as such, something that happens when we are said to be 'self-conscious'.

The problem that this raises for the seemingly unquestionable certainty of the 'felt' qualities of pain and pleasure relates not only to the asymmetry between them, as pointed out by Ryle, but also to their 'value' or 'worth' in the context of which they occur, a context which may make a pleasure 'undesirable' and pain 'acceptable' even though it remains undesired and one wishes that it were not so.

The dramatic change that this brings about in the understanding of human reality, whether it be in the context of knowledge or action, is that it can no longer be understood in hedonistic terms or the avoidance of pain and the seeking of pleasure, as seemed to be the case with the 'animal world'. The whole 'learning theory'

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oout in the understandontext of knowledge or ood in hedonistic terms of pleasure, as seemed whole 'learning theory' which is based on the seemingly self-justified assumption that all living beings seek pleasure and avoid pain is based on this fallacy, just as are the other disciplines which try to understand men and predict his behaviour based on it.

The fact that human behaviour is 'predictable' cannot be denied. But it equally cannot be denied that it has an 'in-built' unpredictability in it which cannot, in principle, be ascribed to the insufficiency of our knowledge regarding the 'casual conditions', operating in it. The 'predictability' comes from that which seems shared between the human and the animal world. The 'unpredictability' comes from that which differentiates the one from the other.

The insoluble dilemma posed by this comes into the open when one talks of 'training', 'educating', 'managing', 'planning' human affairs and human beings. On one side, we want and value innovation and creativity, a departure or even a 'break' from the tradition, even when 'learning' primarily means being able to do correctly what one has been 'taught'. But, in the context of collective effort and action, one not only wants but has to count on the predictability of 'actions' on the part of myriads of human beings who, in case they depart too much from what is expected, would frustrate and nullify the achievement of those ends for which the action was undertaken.

One attempt to solve the dilemma has been to segregate the realms where creativity and innovation are the desirable goals and where the individual is considered in his uniqueness and valued for it. The realms of art, thought and spirituality are the well-known examples and here we only provide the basic supportive conditions and wait for the 'miracle' to occur. The other are those realms where 'quantity' rules and what is wanted is 'standardization' to ensure that a minimum quality is achieved and maintained.

The segregation and combination presuppose, however, centralized decision-making institutions, the paradigm of which is the State in the present times, and even the so-called international institutions of the Untied Nations, directly or indirectly associated with it, exemplify it.

The other solution has always been to abolish the segregation, decentralize innovation and creativity and see the 'learning pro-

cess', whose in-built necessity follows from the very biological situation of humankind, as involving both the processes simultaneously in it. The inter-twining of the two creates a situation where understanding in terms of causality, probability and even 'chance' takes a 'backseat' and 'history', in the sense we 'know' it today, disappears from the horizon. Society, polity, economy and culture relapse or return to the way 'nature' functions, silently, perennially experimenting, innovating and we have something called 'civilizations'.

There is, of course, the distinction between 'culture' and 'civilization' which is not obliterated but, instead, results in an interactive inter-relationship between the two which may be regarded as 'dialectical'. The prehistoric cultures give way to centralized states and empires which disintegrate and disappear into some 'a-historical' mass about which not much can be known till some other 'state-formation' occurs or empires arise which make everything 'visible' once again and become the subject of study in terms of their 'rise', 'decline' and 'fall', the latest exemplifications of which were the British and the Soviet Empires, and their successor, the American one which is in the process of formation.

The history of the last few hundred years has placed the state at the centre of everything else and determined the ideology of 'total control' of all social, economic and cultural phenomena based on the notion of 'causal knowledge' on the one hand and the resulting technologies, on the other.

The illusion that this time there will be no 'decline' or 'fall' seems to be shared by all the 'knowledge-holders', whether in the 'natural' or the 'social' sciences, even in face of the collapse of the Soviet Union and the American fiasco in Iraq, can only be said to be the result of a 'faith' and 'hope' that a little more of 'knowledge' and a little more of 'technology' will do the 'trick', forgetting that the problem are 'human beings' who refuse to be indoctrinate, shaped or moulded to the rulers' and the planners' desire.

Reason, with its postulate of 'consistency', imposes on the actors something which the equally necessary postulate of 'choice' in the context of human action negates, as choice can only be 'known' after it had been made and can, by definition, not be foretold even probabilistically as its occurrence as different or even opposed to what was probabilistically predicted confirms its being a 'choice'

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and can never, in principle, be taken as a 'negative' instance disconfirming in any sense whatsoever the predicted probability except on the basis of the 'consistency' postulate which it denies.

The notion of 'consistency' itself is not very clear except in the context of purely formal deductive systems where also, we are told, it cannot be proved but, in any case, has to be assumed as otherwise a proposition and its contradictory would both be 'deducible' within the system.

But even if we accept some notion of 'consistency' as without assuming it in some sense no argument or 'knowledge enterprise' will be possible, one has to be aware of a deeper concept lying behind it, and that is the notion of 'identity' without which it will make no sense.

The idea of an 'unchanging identity' is an absurdity and hence the notion of 'choice' has to be understood in such a way as to be related to any 'pre-given' personal identity in such a way as not to be completely determined by it and not just this, but affecting it in a substantive way so that the personality which is said to have made the 'choice' does not remain the same as before.

The idea that there is some pre-given identity which is 'unchanging' and hence has to be reflected in some consistent pattern of the 'choices' that one makes has been subverted not only by the denial of any preexistent 'essence' determining the 'nature' of things, but also by the obvious fact that a thing not only comes into being and ceases to be, but also that it is always in relations, both 'active' and 'passive', after it has come into being. The notions of 'autonomy', 'freedom' and 'responsibility' have to be understood in this dynamic context and not in the 'static', 'essentialist' perspective they have generally been formulated and thought uptil now. 'Self-determination' and 'freedom' are evolving and changing all the time as the 'self' continues to change and grow and be 'formed' and shaped continually in ways that may enhance or restrict one's freedom, or make one even a victim of habits one cannot give up even when one wants to and is required to do so by a change in the circumstances, and one 'appears' as a 'marionette' pulled by strings over which one has lost control that one had and could exercise before.

The 'probabilistic prediction' of choices done on the basis of 'past performance' would, thus, be a sign not of 'rationally' that is

immanent in action as 'practical reason' responding creatively to the changes in the situation, but a sign of loss of it indicating a relapse into 'inertness' or tamas or, at times, the 'fixation' on one's own image of oneself with which one has identified oneself so deeply that one is not prepared to give it up, even though 'clinging' to it may mean the ruin of oneself and others.

The idea of an 'immanent Practical Reason' functioning in an interactional field where multiple changing and evolving selves are involved not only with one another but also with the biotic and physical environment challenges the notion of 'predictive rationality', whether probabilistic or non-probabilistic, in a fundamental way.

The 'past' or that which has happened, when viewed from this new perspective, would be 'seen' in a different way as the notion of 'reason' in human action would have undergone a 'sea-change' and made both 'predictability' and 'unpredictability' central to the understanding of it, with the latter being more important than the former as there would be no 'meaning' or interest or surprise or dream without it, but which itself would not be there if the former were totally absent from the picture.

This odd mixture which characterizes human action in terms of concepts that seem a strange amalgamation of factors that lead simultaneously to both predictability and non-predictability are a strange 'cocktail-mix' of causality, chance, choice, accident and other such things in various proportions, lend it both a fascinating and a frustrating character that is the despair of all those who try to understand it and the 'obsession' with the writer or the artist who is ever allured by the desire to unravel the puzzle or find a clue to the seemingly insoluble mystery in the story that surrounds it.

The crucial question, however, is whether these concepts can be meaningfully extended to the non-human realm of living beings and to that we call 'non-living'. There would have been no problem, if there would have only been 'endless' repetition as sometimes seems the case, and as generally the ancients saw it. But the intrusion of the idea of 'evolution' and the evidence for it at every level has created the problem as to how could any cluster of even seemingly opposed concepts ever explain or account for the 'direction'

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ner these concepts can be in realm of living beings ould have been no probis' repetition as sometimes ents saw it. But the intrudence for it at every level any cluster of even seemcount for the 'direction' that seems to be there everywhere when one looks back and 'sees' the events unfolding in time. The idea that 'order' can arise out of chaos is of little help as the problem is not of 'order', but 'direction'. The recourse to any transcendent or immanent teleology can hardly avail anything as neither 'retrospectively' nor 'prospectively', one seems ever able to say meaningfully that what has happened alone could have happened or that 'what will happen, will happen', no matter what one may do or not do.

The fact that improbabilities have not only been rendered possible, but also 'actual' and continue to do so, raises a question about the nature of 'what is', that is difficult to answer. The deeper and more complex problem arises however from the fact that a 'retrospective' look at the improbable events that have been 'actualized' show a 'sequential direction' that seems inexplicable except by postulating some sort of an 'immanent telos' unfolding in time. The idea of 'god' seems to have been brought in to render this whole thing 'intelligible'. But, in whatever form it be formulated, it only increases the difficulty instead of resolving or even mitigating it. Time, in case its reality is accepted, and the teleological argument accepts it, nullifies the idea of 'unfoldment' if conceived in a linear fashion. And, in case it is not, the 'unfoldment' would already have been completed and there would be nothing left to wait, and look for, and make 'sense' of it. The postulated 'Day of Judgment', or the cessation of the 'Karmic Cycle' can hardly help as they are not only 'man-centred', ignoring all other beings who also share the same 'historical fate' as his, but also suggest a 'closure' to the 'play' which an 'honest' retrospective look would reveal only to be a drama of the ABSURD full of not only unnecessary suffering but of sadistic cruelty and senseless torture.

At a deeper level, there seems little evidence for any concern with values, at least as man sees them and apprehends in his own life or that of others, or of cultures and civilizations, or even of saints, prophets, mystics, men of god, or even those who have been regarded as incarnation or the 'descent' of the divine on the earth as is said to be the case with Rāma or Kṛṣṇa in India.

Neither God, nor History nor Biography can help in the matter and yet man's self-consciousness 'refuses' to accept or live with it meaningfully. This is the problem that man faces and perhaps the 'art of living' consists in 'squaring' this 'circle' which, though impossible for cognitive consciousness, feelings and emotions do all the time. The alchemy of a little friendly smile and the stretching of a helpful hand can transmute the meaningless into the meaningful and make one 'feel' the difference even when it does not last as the memory lingers and one suffers the suffering a little less as the poet said:

'A little more, and how much it is A little less, and what worlds away'

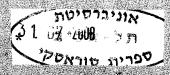
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