CHAPTER I

INTRODUCTION

1.1 Determinism, Philosophy and Science

The problem of determinism and human freedom has been one of perennial interest in philosophy. Even today it is a living issue in philosophy. But this does not make it an exclusive property of philosophy, because it has also been the topic of much debate and discussion in the realm of science as well.\(^1\) The doctrine may hence be referred to as 'philosophic-scientific'.

Though the doctrine is discussed by both philosophy and science, the questions raised by them differ greatly. While in the philosophical context, the doctrine of determinism is considered by many thinkers to hold a formidable threat to human freedom, in science it is acclaimed for having provided a fundamentally universal law which explains physical phenomena satisfactorily. However, recent advances in science have

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1 In science however, the term indeterminism is made use of to contest the idea that preceding 'events' always have a 'binding effect' on events that follow. It seems to us that the debate in the realm of the humanities as well as the sciences is a clear pointer to the need for avoiding rigid generalizations which overlook cases needing careful investigation and reflection.
shown that determinism cannot be considered an universal law applicable to all levels of physical phenomena, but holds good only at the macroscopic realms.

Though determinism has gained strength from the rich evidences offered by various studies concerning man, it has also acted as a spur on moral philosophers, sociologists and jurists to come out with new and penetrating arguments to counter those aspects of determinism which appear as a threat to human freedom, and hence to moral responsibility as well.

The doctrine of determinism as understood in science has been approached from three different angles, viz., those of causality, prediction and explanation. The three approaches overlap. For instance, the principle of causality and predictability are interlinked in such a way that without the acceptance of the former, acceptance of the latter would hardly be possible. In a similar way, explanation too depends on causality. In fact, explanation depends on the observance of the regularity of the cause-effect sequence.

That the notion of causality accounts for determinism in a major way is obvious when determinism is defined as "the general philosophical thesis which states that for
everything that ever happens there are conditions such that given them nothing else could happen." The definition implies that every event or occurrence in the universe must have a cause. What is more important is that under certain conditions specified, nothing else (i.e. other than what has actually occurred) could have been the outcome. Looking at the whole 'sequence', determinism asserts that all sequences are determined by preceding conditions or causes. An uncaused event, according to the above definition is an impossibility. The hard core of this definition, is the theory of universal causation, which is basic to the sciences.

Several proponents of determinism have maintained that determinism is synonymous with causality. It is significant that even some theories of freedom postulated by philosophers


employ causal terms to describe 'states of freedom'. Roy Searle's 'guided causality' and Roderick Chishom's 'immanent causation' are some instances which can be cited.

Determinism can also be understood as the principle of predictability. The predictability-aspect of determinism is vital to the field of science and human affairs. Approached from this angle, determinism asserts as follows: "In principle, any event could be predicted; it was only the lack of knowledge of the laws of the present causes that limited prediction." This definition espouses the view that total predictability (and hence total determinism) is in principle possible. The principle of predictability treats human actions on par with any other occurrence which is predictable. Just as the changes that take place when water is heated to 100°C can be predicted, the behaviour of an individual who is subject to a certain stimulus could also be predicted. The only noticeable difference is that in the case of a human reaction, the stimulus may be more intricate and subject to several biological laws. For the determinist, predictability remains essentially the same — be it water

or a human response.5

The predictability-aspect of determinism plays an important role in the physical as well as the behavioural sciences. Predictability can be visualised as an extension of the principle of causation, since it depends on the cause-effect relationship between phenomena. As Robert Young observes:

Many formulations of the doctrine of determinism are constructed in terms of the possibility of knowing, predicting and explaining all that happens ... What is determined is what can in principle be predicted... A position often taken is that: (1) "Event e is determined" and (2) "Event e is rationally predictable" are synonymous.

5 Some thinkers like Berofsky (Determinism, New Jersey: Princeton University Press, 1971, p.28) have distinguished predictability from foreknowledge on the ground that while foreknowledge implies the previous knowledge of an event prediction does not necessarily entail knowledge of that particular event. It needs to be pointed out here, that the assertion 'A predicts P', implies that A does know something about P. Secondly, even to predict P, support of some kind is needed. Hence, foreknowledge on which rests prediction needs the support of some present existing state, on which the prediction of P is based. Thus a 'valid' prediction does entail some knowledge of that particular event. Predictability may hence be considered a form of foreknowledge, and not different from it. In other words, predictability implies foreknowledge, and vice versa.

Determinism has been sometimes construed as holding that all events can be explained. In this context Berofsky observes that the deductive nomological (covering law) theory of explanation links determinism and explanation.\(^7\) The model of explanation advocated by the deductive nomological theory is typically a deterministic one.\(^8\) For instance, an event can be explained, if the explanandum can be deduced from the sentences which refer to the antecedent conditions of the event and the general laws which form the explanans.

1.2 Determinism and Causal Principle

Though determinism has taken the three different forms indicated, it should be observed that the causal principle provides the core of the doctrine. The suggestion is that

\(^7\) Op. Cit., p. 35.

\(^8\) In deductive-nomological explanation, the occurrence of a phenomenon is analysed logically in terms of the sentence describing a particular phenomenon, in the context of the general laws on which the explanation rests. "Thus a D-N explanation answers the question 'Why did the explanandum - phenomenon occur?' by showing that the phenomenon resulted from certain particular circumstances, specified in C1, C2 ... Ck, in accordance with the laws L1, L2 ... Lr. By pointing this out, the argument shows that, given the particular circumstances and the laws in question, the occurrences of the phenomenon was to be expected; ... In D-N explanation, then, the explanandum is a logical consequence of the explana-
nans." (Carl G. Hempel, *Aspects of Scientific Explanation*, New York: The Free Press, 1965, pp. 336-337.) Apparently, the D-N explanation is a deterministic one, since the sentences which refer to the event along with its underlying laws are logically, as well as causally related.
all descriptions and definitions of determinism are built round the causal principle such that, every event could be asserted to have a corresponding cause. As Jacques P. Thiroux states it:

determinism means the same thing as universal causation: that is, for every result, effect and event that occurs in reality, there is a cause ... putting this in another way, we can say there is no such thing as an uncaused result, effect, or event.

The basic proposition of determinism, viz., that every event has a cause was proposed mainly from the observation of regularity of laws governing the inanimate, non-living nature. With the growth of science and the discovery of more laws of nature, the causal laws which at first found application in the non-living physical realm as well were extended to the realm of living beings—stretching from the simple unicellular living entity known as amoeba to the complex, multicellular being called man.

Having struck roots, the concept of determinism took several forms in many fields of knowledge, with causation the still providing/foundation. As a writer puts it: "The difference between types of determinism depends on the terms

and concepts to be used in the description of the antecedent conditions and of the covering law.¹⁰

Embodying this doctrine many theories, meta-theories, postulates and thought-structures encompassing various realms of thought like logic, ethics, religion and economics arose; time-wise, they 'stretched' from Socrates in the past to Karl Marx in recent times. These thinkers drew strength from the simple cause-effect sequence to build their systems and theories.

1.3 Pervasive Influence of Determinism

We shall now survey the emergence of the doctrine of determinism in the various realms of thought mentioned above to indicate the pervasive influence of the doctrine.

Determinism in the realm of logic owed its development to ancient Greeks. Some of the Greek thinkers were of the view that logic alone suggested the truth that nothing could

alter what was to happen. Such views obviously originated from the ancient idea of fate. The advocates of this type of determinism held that a proposition could be either true or false, and could have no third value (Tertium non datur). This analysis was applicable to statements relating to all the three divisions of time — past, present and future, and seemed to have allowed no room whatsoever for human freedom.

In the realm of ethics again, the doctrine of determinism owed its early version to Greek thinkers. According to them, the factor which acted as the determinant in the realm of ethical life was 'The Good'. The desire to seek the Good was inherent in man according to them. Socrates and

11 Diogenes Cronus was one of the earliest proponents of logical determinism. He was an actualist (in a sense like Hume) since he held the view that nothing could ever really happen other than what actually happened. He considered that logic alone revealed the truth of determinism which was centered round the concept of fate or 'Moiρα' (as the Greeks refer to it). Logical determinism has been elaborately treated by Aristotle in his work De Interpretatione (9th Chapter), where he discusses his celebrated 'sea battle' involving the possibilities of 'true' propositions being true even before their actual occurrence and 'false' propositions which get 'actualised' when a particular event failed to occur.

(See Foot-Note No.12 on next page)
Plato, for instance, held that no one consciously sought after evil. The Socratic dictum, "Virtue is knowledge" signified that it was the ignorance of the Good that was responsible for man 'straying' into the path of vice. Furthermore, they maintained that seeking the Good itself constituted freedom. Freedom was thus understood as the determination of the will by the Good.

Conversely, 'choosing' the evil was the mark of an enslaved state, brought about by ignorance. It also meant that human life, being determined by something less than the highest Good, was 'less free'. Thus according to these thinkers, 'degrees of freedom' in human life could be envisaged. The farther one was from the highest Good, the less free one was.

(Foot-Note No. 12 of page 9)

12 Ethical determinism as discussed by Socrates and Plato is found in Plato's Dialogues Gorgias and Protagoras. It is in Protagoras that the famous Platonic view that no man does evil voluntarily and the Socratic dictum 'Virtue is wisdom and Vice is ignorance' are found. See, The Collected Dialogues of Plato, ed., Edith Hamilton and Huntington Cairns, Bollinger Series LXXI, New York: Pantheon Book Inc. 1963, pp. 309-352.

This position was rejected by Aristotle and several other philosophers on the ground that the human will was quite often seen to conflict with reason. Often people who indulged in bad deeds did so, not unknowingly, but deliberately. It was held that even the Platonic rejoinder that the will was subordinate to reason did not answer Aristotle's objection. For, apart from being unestablishable, it also presented other difficulties regarding the relation between reason and will and the actual power of the one over the other. However, it is of interest here to note that ethical determinism as found in the expositions of Socrates and Plato did provide room for human freedom.

Another important area of human thought which utilized the deterministic model of explanation was religion. Theological determinism, in some form, was accepted by all world religions. The corner-stone of theological determinism, viz., Divine Foreknowledge (God's Omniscience) seemed to have its implications for human actions and events. The central question raised in this context was whether God's Omniscience negated free action in so far as the 'end' was 'anticipated'. Theological determinism seemed to (directly or indirectly) imply that every event, effect or occurrence happened out of necessity,
because the universe was the creation of an Omnipotent and Omniscient God. A host of philosophers and ecclesiastics set out to clear the misunderstanding, and to maintain that Divine Foreknowledge did not signify that man had no freedom.

Some philosophers like Leibniz, tried to reconcile human freedom with God's foreknowledge by suggesting two kinds of necessities, viz., hypothetical and absolute. Theological stalwarts like St. Augustine also attempted a reconciliation.\(^{13}\) St. Augustine compares God's foreknowledge to memory. He argues that an event does not take place by merely remembering it. Similarly God's foreknowledge about a particular event does not 'cause' that event. The medieval thinker Boethius likened Divine foreknowledge to a sign post which acted as a pointer towards something, without 'causing' anything. The explanation was that though God knew what things

\(^{13}\) St. Augustine argues for the compatibility of determinism and freewill. He maintains that predictability and freedom are compatible. For, 'free' according to him means, 'free from external or internal constraint' (not constrained by threats of external force, and madness—internal force). His view accords well with some of the recent writings on the theory of compatibilism. (See 'Freewill' from De Libero Arbitrio, III, 1 ff, in Ninian Smart, ed., Historical Selections in the Philosophy of Religion, London: SCM Press Ltd., 1962, pp. 40-49.)
were to come, he did not 'compel' events.\textsuperscript{14} Since all the major theories of theological determinism allotted a special place for the strivings of man, even this variety of determinism cannot be considered as totally deterministic.

More recently, there has appeared another form of determinism, known as economic determinism. Proposed by Karl Marx, it has gained great importance. Expressed succinctly, the Marxian theory reiterates that economic production determines the primary relationships in society. The Marxian theory maintains that "the cultural life of man, his intellectual, aesthetic, spiritual life, his creeds and his philosophies, and the social forms which are their vehicles, are the reflections of the economic order."\textsuperscript{15} But the question once again is whether the economic order is "simply given". If, as Marx himself suggests, it is "man made", the element of freedom in human life in regard to the economic as well as other aspects of life does not seem to deserve outright rejection.
