BRINGING ABOUT

It is extremely difficult to produce a set of universally acceptable ethical norms. Consequently, one has every right to be sceptical about the possibilities of an objective agreement in any area where norms or ethical evaluations of conduct is concerned. However, in the recent times, with the advent of modal logic, both deontology and axiology have occupied a very respectable status in the area of philosophical debate. Roughly speaking, evaluative discourses have an affinity towards interjections while the normative discourses usually culminate at imperatives. Along the lines of the contemporary fashion in philosophy, we will call the former group of concepts, the value concepts, as *axiological,* while the latter group of concepts, the normative concepts, may be termed as *deontological.* Axiological concepts, in an important sense, though distinct are closely related with the deontological concepts. There seems to be no general agreement over the nature of the relationship between the two groups of concepts. Apparently, it seems that the axiological concepts are more fundamental with respect to the deontological concepts. In other words, some of the normative considerations presuppose some value judgements.

It is interesting to note that both deontology and axiology presuppose the notions of action, activity, agent etc. These concepts may be termed as *praxiological.* When the notion of man as an agent comes in, a host of other familiar concepts like choice, decision, freedom, will, desire etc. begins to play significant roles in the discussion. A clarification of the concepts of action and agency is of fundamental importance in many of the practical areas of concern, such as medical ethics, law of torts, or any other area where the notion of responsibility is involved.

In this paper, we shall try to pin down the notion of action and to act. In other words, we are only interested to give an answer to the naive looking question — what is it to act? Perhaps an answer which covers all the cases of action may not be found. Some may argue that since actions are "things" in the real world, that they actually happen, and not a matter of abstraction and logical construction, it is futile to search for a logic of action. But it is quite obvious that there is an element of planning, deliberation and strategy involved in every action. The very presence of these elements implies that it would be more realistic to talk about actions in the language of logic and mathematics. We may reformulate our intentions. Our main concern would be to analyse the sentences of the form — an agent A performed an act a; A brought about p.

Broadly speaking, we can decipher two different tendencies from the philosophical literature so far as the logical form of the action sentences are concerned — *extensional* and *intensional*. According to the extensionalist thesis, actions are nothing but events, and therefore, the logical form of action sentences can very well be captured in terms of first-order predicate logic with identity, with certain modifications. Thus the action sentence — Nathuram killed Gandhiji — would take the form:

$$(\exists x) (\text{killed (Nathuram, Gandhiji, x))}. \qquad \ldots (1)$$

which in quasi-English may be read as, "There is an event, x, such that x is killing by Nathuram of Gandhiji". An action acquires its designation due to its peculiar position in the causal nexus. An action is preceeded by a mental event where there is an appropriate want and desire. For an explanation of the performance of an action, in this view, it is necessary and sufficient to cite the causal antecedents of the bodily movements associated with the action namely, the agent's wants, desires, beliefs etc. An immediate consequence — an action is not identical with the associated bodily behaviour; an action is a complex event involving

at least bodily motions, neurological events and brain events; the wanting and believing are parts of the action performed. The logical form of the action sentences thus becomes:

$$(\exists x) \ (\text{willed to kill (Nathuram, Gandhiji, x)) \ caused}$$
$$(\exists y) \ (\text{killed (Nathuram, Gandhiji, Y)) } \ \ldots (2)$$

It is usually believed that causes and effects are distinct events. In other words, 'A *causes* B' is possible only if there is at least some part of the event A which is not a part of the event B and conversely. Since wanting and believing are wholly parts of the action performed, can wanting and believing be also causes of the action performed? An escape from this dilemma can be found if one equates actions with the bodily movements. In that case, analysis of the sentences like, 'Nathuram killed Gandhiji' would be something like a conjunction of a series of sentences of the form:

(i) Nathuram wanted to kill Gandhiji.

(ii) Nathuram believed that by moving his finger with a gun in his hand would kill Gandhiji.

(iii) Nathuram moved his finger with a gun in his hand.

(iv) The moving of Nathuram's finger with a gun in his hand caused Gandhi's death.

Under this modified version of the extensionalist theory of action, the objection is bypassed since the bodily movement associated with action is not identical with believing or willing. However, this modified version has its own problems. The most serious of them all being that of explicating the notion of bodily behaviours associated with actions — can we call, 'raising of one's arm in sleep' an action? Secondly, the notion of action becomes too narrow. Consequently there are no non-basic actions. The sentences like 'Nathuram killed Gandhiji' are not action sentences at all but is only a short expression for a causal chain in which only the part, 'Nathuram moved his finger' is an

action sentence which in turn logically generate the sentence 'Nathuram moved his finger with a gun in his hand.'

It is important to make a distinction between *doing* and *bringing about*. By *doing* certain things we *bring about* something else. For example, by raising the arm, the police stops the car. The thing-done is the *result* of an action; the thing brought about is the *consequence* of the action. The connection between an action and its result is logical. If the result does not materialise the action simply has not been performed (compare (4) below). The distinction between the result and the consequence of an action opens up an unending debate regarding the distinction between a basic action and a non-basic action. However, we are not interested here to indulge ourselves with the debate. It is sufficient for our purpose to regard the distinction, in an important sense, relative. But an action is to be distinguished from bodily movements. An action is essentially intentional; a bodily movement may just occur. An unintentional bodily movement may be due to some conditioned reflexes. An element of intentionality is always associated with action — no one raises his hand for nothing.

The category of event itself is loaded with serious problems. There has been no general agreement over the nature and the ontological status of the category of event. Three distinct lines of thought, in this regard, may be generated depending upon the linguistic expressions at our disposal. On one view, events are particulars in much the same way as my body or this paper are. Strictly speaking, such event-particulars, though spatio-temporally locatable are not repeatable. The advantage of such a theory of events is that events can be expressed in terms of the first-order language alone. On the second view, events are thought of as a complex of particulars and properties (and time). Here events are construed as abstract and repeatable entities. However, for a proper description of an event, provisions should be made for quantifying over the properties as well. According

to the third view, events are proposition-like objects, in the sense, they are abstract and repeatable but not spatio-temporally locatable. This demands, for a proper description of an event, provisions for quantifying over propositions in the language.

The fundamental units or the building-blocks for an intensionalistic theory of action would be propositions or proposition-like objects and a monadic operator over them. This is the notion that some propositions are *made true* by an agent. The basic syntactical expression, in this language, would be — An agent A performs an action a such that the proposition p is made true. What corresponds to an event, what is brought about, in this frame-work, is a state of affair and a description of which is made true. Thus the notion of 'states of affairs' and 'obtaining' of them is implicit in the ontology. Corresponding to the states of affairs we will have sentences to describe them. For the sake of brevity, instead of writing, 'An agent A performs an act a such that the proposition p is made true', we may write, 'An agent A does p'. However, the point to be noted here is that an agent can never do p, which is a sentence; he can only do something which makes the sentence true. Thus for the action sentence, an agent does p, we may write 'Bp'. Obviously its negation would be 'NBp' while its contrary would be 'BNp'. Some are of the opinion that 'Bp' is closed under conjunction elimination. That is,

$$CBKpqKBpBq \qquad \ldots (3)$$

is valid. And if we are thinking of successful actions, we may reasonably assume the naive looking expression

$$CBpp \qquad \ldots (4)$$

as valid.

It obviously suggests a resemblance of structure between modal logic and some locutions of action. However, the structural resemblance breaks down under a deeper scrutiny. For example, if we add (3) and (4) as axioms

to the classical propositional logic and the usual rule of necessitation or its equivalent, we are stuck into the quickmire of the paradoxes of (strict) implication.

The basic insight that one can derive from the intensionalistic approach towards the action° sentences is that action is to be construed as a change among the states of affairs — a proposition is *made true* by bringing about the corresponding state of affair. If we start with a finite set of atomic states of affairs, we may easily illustrate the notion of 'bringing about', the intrinsic notion of action, with the help of a *tree*. Let us assume that we have a finite set of n logically independent states of affairs — $\{p_1 \ldots, p_n\}$. Any combination of such states of affairs may obtain on any occasion. Thus, we have 2^n possible situations, possible worlds. Starting from any point of time with the the mentioned ontology we may have 2^{mn} possible *histories* after m successive occasions. The notion of 'change' is intrinsically related with the notion of 'bringing about'. What is *brought about* by an agent is a *change* among the existing state of affairs, a possible world is changed to another.

Given these notions, it is convenient to think that certain possible worlds are possible outcomes of certain others. It may be the case, that certain aspects are common to some of the different possible worlds. For example, whether Lata has met a train accident or is hit by a heavy iron rod, her death is "contained" in the possible worlds following both.

Let us assume that all the possible worlds that branch out from a designated possible world W_n are the historical alternatives open at W_0. There are three possible alternatives — W_1, W_2, and W_3 — according to the diagram. Let us consider an agent, A, at W_0 who can do either a or c by changing the world W_0 to either W_1 or W_3 as the case may be. Also he may refrain from doing anything and allow the nature to evolve on its own. Thus W_0 is a decision point for the agent. He has to decide which act he will be doing and that depends upon what he intends to
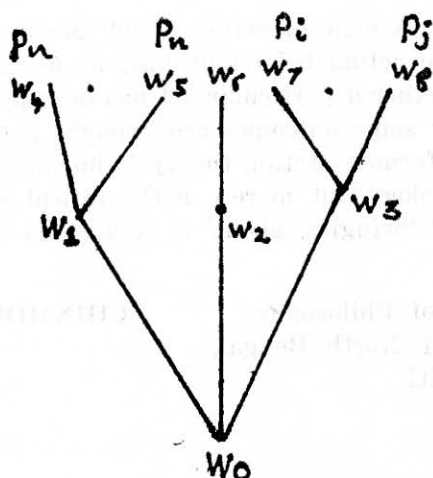
bring about. Supposing the agent does a at W_0, so that p_1 is made true at W_1 and then the nature is allowed to take its own course, it may change to either W_4 or to W_5, if we do not consider the course of history to be totally determined. If a particular state of affair, say p_n obtains at both W_4 and W_5, we may say that p_n is *historically necessary* relative to the act a. The performance of the act a may be represented by the ordered pair $(W_1. W_0) = a$. If the agent performed a to bring about p_n, we may characterise the action with the help of a triad $(p_n. W_1. W_0)$, where the ordered pairs $(W_4. W_0)$ and $W_5. W_n)$ forms the transitive closures of the relation $(W_1. W_0)$. But if we consider another case, for example, the act C, designated by the ordered pair $W_3. W_0)$, we are not in a position to characterise the action involved since the historical alternatives branch out from W_3 to W_7 and W_8. W_7 and W_8 are disjoint. No particular proposition is made true in both the end points, though a disjunction Ap_ip_j is the case at both the end points.

All these logical structures regarding the notion of action is an attempt to capture the notion of 'bringing about' over

action chains. A logic of action is not meant for telling us whether some actual behaviour has, as a matter of fact, occurred, whether a particular act has been performed. But only whether some outcomes are brought about if the act has been performed. Action theory is no substitute for empirical psychology but merely a theoretical study of how the notion of 'bringing about' is structured in actions.

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