

INDETERMINACY AS A FUNCTION OF

THE LIMITS OF λ -LANGUAGE

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By

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PREFACE

It might be in order to preface this discussion with a word in apology of its purported scope -- i.e., in apology of the bibliography:

Except for the compilation of the bibliography and a few minor alterations made this year, this paper was written in August and September, 1970, as a drastically revised and shortened version of the initial draft written earlier that summer. In the rather long interval between the writing of the text and the compilation of the bibliography as it now stands, however, a number of works have come to our attention as being sufficiently relevant to be included in the bibliography -- notably a number of works on the "philosophical implications" of quantum theory (which, to some extent, had initially suggested the central thesis to be given here) and Donald McKay's Freedom of Action in a Mechanistic Universe (Cambridge, 1967). At the same time, we have tried to list all the major works consulted, or mentioned only in the initial draft, but not cited in the present text.

Hopcfully, this might help explain the presence of a suspiciously lengthy bibliography that seems to belie the scope of this meagre text.

Thanks go to Dr. A. Shalom, Dr. C. Georgiadis, and to Dr. E. Simpson, for their comments on this essay. Though we have still not been able to meet all their criticisms, they have chosen to be very lenient with the final draft.

Thanks also go to all those who have at some stage generously loaned the use of their typewriters, and particularly to Mrs. B. Crews, the departmental secretary, who has offered to type some of this draft herself. And once again we must mention Dr. C. Georgiadis, who has kindly agreed to proof-read the final typescript, in spite of his acquaintance with the present writer's deplorable attempts earlier on to produce legible copies of the thesis.

Finally, thanks are due to all the staff in question for their patience with the series of delays and inconveniences incurred by what we should, but for them, have termed a totally inexcusable insistence on finishing this thesis abroad.

April, 1971.

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INTRODUCTION

This is an attempt to re-analyse the freewill-determinism issue in the light of the following main concepts, to be developed in the course of our enquiry:

- a) the distinction between the language-of-agency and
and the language-of-observation,
which will then lead us to a formulation of
- b) Λ -language.

The latter concept forms the nucleus of this discussion, in spite of the fact that it is not explicitly discussed until the final chapter. What precedes may be seen as pointing to this concept as a possible means of solving the problems introduced earlier on in this enquiry.

Briefly, then, our position is to be as follows:

Instead of being so related that the negation of the one entails the affirmation of the other, the respective tenets of voluntarism and determinism are to be seen as consequences of two alternative* frames of reference. Accordingly, an event regarded as free from within one frame of reference may be regarded as determined from another: nor would it do to say that one frame of reference is "valid" whilst the other is not.

Whether an "individual"*** takes a given event to be free would, in turn, be geared to the limits of his potential

to communicate and to observe.***

The present thesis is to be distinguished from the position that both voluntarism and determinism are to some extent tenable -- a position which we shall try to argue is inconsistent.

In prospect, this discussion is to cover the following grounds:

In the opening chapter, we shall be tracing some of the key-problems resulting from the presumption that voluntarism and determinism are so related that the negation of either tenet would involve the affirmation of the other. We shall also be analysing some of the difficulties intrinsic to the tenet of "hard", or Laplacean, determinism. The chapter will close upon a look at so-called "soft"-determinism, which, we shall contend, constitutes an inconsistent attempt to forge a synthesis between the voluntaristic standpoint and the "hard"-deterministic one.

The second chapter will be geared to an exposition of the agency-observation distinction, and this will lead us, towards the end of the chapter, to try to probe the problem of "Others' Actions". The latter problem will be taken up again in the final chapter, where more resources will be introduced for tackling it.

Finally, we shall try to relate the issue of determinism, or determinacy, to the factor of observation-cum-communication.

potential. Here, we shall be suggesting that some of the problems discussed in the initial chapter might be consequent upon presuming observation-cum- communication potential to be independent of the judge-speaker. This will take us into a brief analysis of the concept of intelligence, which, we shall try to indicate, is an inconsistent one as it stands; we shall then be led to formulate the concept of Λ -language as a means of finding an exit from the inconsistencies involved in the approaches examined in the earlier sections.

*: We are using the word latu sensu -- viz., so as not to preclude the possibility of more than two "alternatives".

** : The terminology here is merely provisional: we do not wish to become involved at this stage in the problem of "individuals" or "persons".

***: No dichotomy is intended here between 'communication' and 'observation': but see Chapter III, infra, passim.

CHAPTER I

PROBLEMS WITH THE "EITHER-OR"

ASSUMPTION

1. Prospectus

The logical relation between determinism and voluntarism has often been regarded as being such that, if either position did not hold, then the other must -- as a logical consequence, -- be justified. Such a polarity seems to lead to a number of inconsistencies, however; in the present chapter, we shall be probing into the main ones.

A word in advance on our use of the two key-terms here:

By 'determinism', we refer throughout to what is called "hard"-determinism by those who wish to maintain that there is another variant of determinism, viz., "soft"-determinism. The sort of tenet referred to by the latter epithet will be discussed in due course.¹ Meanwhile, by 'determinism', we understand only the tenet that all events are in principle predictable -- with no specification per se as to the extent to which freedom may be said to co-exist with it.

We do not propose to define the terms 'freedom' or 'freewill' at this early stage, if only because their normal usage tends to be extremely ambiguous. This much, nevertheless, we are prepared to assume:

- a) The tenet of "freewill" is not prima facie to be interpreted as being incompatible with that of determinism.
- b) That, if it does not accord with any of the normal applications of the term 'freewill' to interpret the voluntaristic tenet as being entailed by the negation of the deterministic position, then the "either-or" relation between the two may be rejected.

The main argument of this chapter consists of a reductio ad absurdum of the relation in question: We shall start by trying to show that determinism, in the "hard", or Laplacean, sense, involves an inconsistency. If this is so, and if, at the same time, the "either-or" relation holds, then the voluntaristic position should follow. But this, we shall try to suggest, is not so: for unless the latter position were a vacuous one, voluntarism could only follow from the denial of determinism if the term 'free' had the same range of predication as 'determinate'. And this does not accord with the established use of these terms. This argument is to be presented in more detail in the section on voluntarism (pp.26 ff., infra.).

We shall then come to a short discussion of what is known as "soft"-determinism, which, we shall contend, is at best an irrelevant attempt to evade the inconsistencies in the "either-or" assumption. More than that, it, too, appears on analysis to be inconsistent.

In the final section, it will be suggested that perhaps the common precept, or precepts, underlying the tenets of voluntarism and determinism -- in so far as they are taken to be logically related to each other, -- might themselves merit re-analysis.

1.1. Determinism indefensible

Before proceeding to look at determinism as such, one or two words on a term that will be recurring throughout much of this discussion, viz., 'kinesis'.

We shall be using this term whenever we wish to refer to any macroscopically observable (phenomenologically observable) piece of behaviour, unspecified per se as to "freedom" or determinacy. In order to specify it, -- i.e., in order to interpret it as either free or non-free, we should have to say, for instance, 'voluntary kinesis', or 'non-voluntary kinesis'. This is to circumvent the term 'act' (or 'action'), which appears to be ridden with voluntaristic overtones (cf. Chapter II, passim).

That determinism (sc., "hard", Laplacean, determinism) involves the paradox of predicting, or being able to predict, in principle, one's own behaviour, is by now a hackneyed argument. If indeed the possibility of predicting one's own "voluntary" behaviour (so-called), -- and hence, one's own decisions, -- must in consistency be dismissed, then determinism, too, would have to be rejected on the basis of

modus tollens.

To dismiss offhand the possibility of such self-prediction, however, would be too cavalier -- for it remains to be discussed whether D.F. Pears' attempt to defend it, in Predicting and Deciding², is a valid one. We shall be arguing that, in the final analysis, the prospect of predicting one's own voluntary behaviour does involve an inconsistency. But Pears' argument seems to have an intuitive credibility that might be worth closer scrutiny. To this argument, then, we now turn.

We shall not be entering upon a point-by-point analysis of Pears' article: what concerns us at the moment is merely its commitment to the position that one can, and does in practice, inductively predict one's own "decisions"³. Perhaps we should also stress in advance that our criticism of Pears does not entail our taking him to be a "determinist":

The possibility of predicting one's own voluntary behaviour (which we shall henceforth refer to simply as 'self-prediction') is a consequence of determinism (sc., "hard"-determinism). Hence to refute the possibility of self-prediction would suffice, on the basis of modus tollens, to refute the deterministic position. This, however, is to be distinguished from saying that to grant the possibility of self-prediction is in effect to grant the position of determinism: to argue thus would seem to be guilty of the fallacy

known as "affirming-the-consequent". We shall, then, be saying that self-prediction cannot in consistency be conceded, and hence, that determinism, too, is untenable.

Now, two sorts of case seem, on initial analysis, to exemplify the inductive prediction of one's own decisions,

viz.:

1) those where desires, or what we shall term "primary propensities"⁴, play the prominent rôle,

and

2) those cases which Pears calls "calculative".

It is to be noticed that we are precluding, without further ado,

1') cases of apparent self-prediction which, according to Pears, call for "rationalising descriptions"⁵.

An instance of what Pears would term a "rationalising description" would be when, e.g., one apparently predicts that one will do whatever one's friend will end up imitating.⁶

Such an instance, however, may be seen to be a specious sort of example to give of self-prediction: for here, one would seem to be predicting what the friend will end up doing -- in this case, imitating one's own actions, -- rather than predicting what one will do oneself. This sort of case, then, we shall be rejecting without further analysis as a sheer piece of verbal legerdemain. In addition, we shall also be precluding:

2') cases where induction would ostensibly be of no help -- viz., cases where one is presented with a range of equally "neutral" options: which of a number of identical-looking fruits to pick from a bowl, say.⁷

A note might also be in order here as to how we are to distinguish between the decision per se and the performance in accordance with the decision. In this connection, Pears nimbly chooses to restrict his cases to those where, as he thinks, "the agent would naturally and easily make his decision at a definite moment which preceded the moment of action."⁸ This procedure has its own difficulties, but we shall not have cause to analyse them here. Suffice it for our purpose to limit ourselves to the range of what may be agreed upon to constitute voluntary kineses -- i.e., observable "actions", -- and hence circumvent for the moment the question as to whether making a decision as such constitutes a finite event.

Having finally dispensed with preliminary qualifications, we might now turn to analyse each of the two remaining sorts of apparent self-prediction in turn.

1.1.1. Predictions of "aesthetically" motivated actions and actions involving calculation

1) Predictions of "aesthetically" motivated actions
(i.e., those where desires play a discernible rôle)

In general terms, cases of this sort involve the formulation of what we might term a "prediction-matrix",

which is to serve as an inductive guideline.

Thus, if (to use Pears' example) the individual in question, knowing that his own tastes are closely similar to a given friend's, predicts that he himself will end up buying an article similar to what the friend has bought, then his prediction-matrix would go something like this:

I shall end up buying X, where X is an article similar to what A has bought, -- whatever X turns out to be.

On closer analysis, however, this turns out to be an extremely misleading sort of example: For if taste were to be analysed as a genuine factor in one's eventually choosing the same sort of article as one's friend, A, then it should be arguable that one is not always in the position to exercise what we might call one's "existentialist's prerogative" to choose in intentional contravention to one's taste. But if it were the case that one is not always in principle able to deliberately thwart what one feels to be one's primary propensity, then we should no longer be dealing with voluntary behaviour, -- with kineses performed-in-accordance-with-decisions. To say that one always acts in accordance with one's primary propensities (i.e., in effect, to take it as analytic that one invariably follows one's primary propensities) would be to render the whole issue vacuous. For then, the case would not even be an inductive one: Given one knows one's taste,

there would no longer be any question as to whether one would act in accordance with it on a particular occasion.

Yet it may readily be objected that, in practice, when we say X has a certain taste, we are saying no more than that he has a certain disposition -- and this does not involve any invariance in his behaviour in this respect. But then, would saying that one can predict, inductively, one's own "aesthetic" decisions be anything more than to say that one has established, from past occurrences, that one does (or, to be Megarian, did) have a certain taste, or aesthetic propensity? In more detail:

To predict, inductively, that one has similar tastes to A is to say not merely that one has tended so far to manifest the same aesthetic preferences as A, but in addition that one is very likely to go on doing so. But now to say this would seem, prima facie, to be on a par with making any other "inductive" statement -- that ice has the disposition and will always have the disposition to melt at a temperature above 0° Centigrade, for instance.

But the very factor of self-prediction emerging as a problem over and above the general problem of (inductive) prediction at least suggests that the former problem is of a different genre. Pears' treatment of the problem at issue seems simply to neglect the source of the asymmetry between self-prediction and inductive prediction at large. In general,

then, the problem of self-prediction, as distinct from the generalised problem of ~~a~~ inductive prediction, might be expressed as follows:

Ex hypothesi, the kinesis to be predicted is voluntary. But at the same time, the one who is to do the predicting is co-incident with the would-be agent. Thus in this case, the would-be agent would be "privy", as it were, to the prediction (or, at any rate, prediction-matrix) in question. And in so far as the prospective kinesis is to be voluntary, the agent might, in principle, deliberately opt to thwart it. For instance, if the prediction-matrix is,

I shall end up choosing X, where X is the option that most accords with my primary aesthetic propensity

then the would-be agent might well decide to thwart what he takes to be his primary propensity, and choose Y instead.

At this juncture, a number of objections might be seen to emerge, -- viz.:

a) that one's choosing Y, rather than X, really constitutes the option most in accord with the primary propensity at issue;

closely associated with this would be the objection that

b) that one's deliberately thwarting one's primary propensity is really an indication of one's being able to predict how one would behave;⁹

and

c) that, in principle, one may predict that one will end up choosing an article similar to A's, without knowing beforehand precisely what article this is going to be; and hence, that one would not have the means -- i.e., the necessary information -- to thwart the prediction.

We shall now try to answer each of these in turn:

a) Here, the following points are to be observed:

i) that choosing Y (as against X) "really" constitutes the primary propensity at issue cannot consistently be said to be the agent-cum-predictor's own view;

ii) that, in so far as one's ultimate choice of Y goes against one's own inductive prediction, -- i.e., against what one takes to be one's own primary propensity, -- the prediction, qua self-prediction, must be deemed to be falsified.

For supposing A were to be taken as the authority on the issue as to what may be said to accord with B's primary propensity; and supposing also that A and B were at variance in this regard. Then even if B's ultimately choosing article Y over article X were to be interpreted by A as the sort of choice B would normally have made anyway, the fact remains that the choice would not accord with the prediction,

I shall end up acting in accordance with my primary propensity

as understood by B himself. Hence, as a self-prediction, this would have to be regarded as falsified.

b) The second objection may be understood in one of two senses:

1) In the sense that, in order to be able to thwart one's primary propensity, one would have to know what one's primary propensity is; and to know what one's primary propensity is would in turn entail one's being able to predict, as a rule, how one would act under the circumstances.

2) In the sense that entails the following dilemma:
If one were to thwart one's "primary" propensities more and more often, then this thwarting itself would become a sort of habit-of-perversity (or exemplary Kantian habit-of-self-denial), and hence, inductively predictable. If the thwarting is to remain an exception rather than become a rule, then the inductive grounds for saying that one would tend to follow one's primary propensity would not thereby be endangered.

To take sense (1) first:

Here, it is to be noticed that the "thwarting" in question would at most involve a statement as to what one would have done under the circumstances had one followed one's primary propensities: it does not involve a prediction as to what one will, in fact, end up doing. The closest thing to a factual assertion such a "thwarting" would involve would be the premise as to how one has, as a rule, chosen in the past

under like circumstances. But inductive self-prediction involves the prediction that one will in fact act at a given future instant similarly to the way in which one has acted in the past. Thus thwarting one's primary propensity would not involve any inductive self-prediction as such.

The second interpretation pushes the problem a stage further to that of what might be termed "secondary" propensities -- e.g., the propensity to make surprise "existentialistic" moves. But it may be seen that to proceed along this line would lead us on to the path of a vicious spiral. For supposing we were, per impossibile, to come out with a prediction-matrix to the effect that one would probably end up thwarting one's primary propensities. Then the "thwarting" propensity would simply edge the lower-order propensity off the scene and itself become the new "primary propensity". We should then be obliged to account for the tertiary propensity to thwart the thwarting-propensity, by acting, in effect, according to the initial primary propensity. This could only lead us ad infinitum into an ever-widening whirlpool.

Again, with regard to the second horn of the "dilemma" (see p. 14), we might observe that, even if a not-too-frequent exercise of the "thwarting" tactic does not constitute evidence against the statement that one tends to follow one's primary propensity, to say the latter is not

ipso facto to make a prediction. It is merely to state a disposition. True, the statement of dispositions does involve an element of prediction to this extent, that to say X has a disposition d is, as a rule, also to say that X will very likely manifest a certain "dispositional property", $\S$, in the presence of certain other factors, Σ . But here, the disparity between self-prediction (sc., of one's own "voluntary" kineses) and other sorts of inductive statement comes into play: For in the case of self-prediction, in so far as the prediction precedes the kinesis predicted (or, for that matter, the kinesis contrary to that predicted), and also in so far as the kinesis in question is ex hypothesi voluntary, the individual may always, in principle, choose to (again) thwart the prediction, to which he is of course privy. There is no standing by as a mere observer to see if the prediction will, in fact, be satisfied: one has, it would seem, to take sides -- that is, to decide whether or not to satisfy the prediction.

Of course, the decision may subsequently be thwarted -- not, this time, by oneself, but by "external" circumstances -- but this would, on the same showing, render the kinesis in question an involuntary one. Still, at this juncture, it might be suggested that it is possible for one to make a prediction today as to what one will end up doing a week hence, then forget all about it. Thus, it might be said, one would

eventually be caught offguard at the time of the kinesis and hence be deprived of the prerogative to "thwart" it. But this would be to dissolve the case into one generically similar to the case of the prediction of others' actions.¹⁰ Strictly speaking, this would not constitute an authentic instance of self-prediction. What renders a prediction a case of self-prediction is precisely the interplay between decision and prediction: the one who makes the decision is also aware of the prediction regarding the decision, and at the time of the "act" in question.

This much, then, has been to indicate that, in the case where the observer co-incides with the would-be agent, one's having disposition d does not even constitute an inductive basis for saying that one will manifest ⁸ (cf. p. 16) at any given future time. Not, at least, if the would-be agent has the prediction in mind. And only if he does have it in mind would it be warranted to call it a case of self-prediction. At most, then, statements regarding one's own dispositions or primary propensities are to be viewed as statements regarding tendencies manifested to date.

v As discussed above (p. 15), the thwarting of such tendencies cannot itself become a primary propensity; thus the possibility of stating one's own dispositions is not imperilled by that particular prospect; but then, neither does this possibility entail, ipso facto, that of self-prediction.

c) The sort of case cited under (c) on p. 13 is in fact admitted by Pears as a genuine instance of self-prediction. However, closer analysis will show a flaw in such purported instances of prediction:

Now, it is true that if one were predicting in accordance with a prediction-matrix which contains at least one genuine unknown factor, e.g.,

I shall end up buying article X, which will be similar to what A has just bought -- whatever X turns out to be.

one would be deprived of the means of thwarting the prediction. We say 'genuine unknown' since here, as in the example above, one does not know what X is at the moment of choosing, and hence cannot deliberately thwart the prediction by intentionally avoiding X. But as a rule, it is specified that X is to be, for instance, the article most in accord with one's primary propensity, which one may be presumed to know.

Now, all the examples of self-prediction given by Pears are supposed to be based on prediction-matrices containing genuine unknowns, and hence there should be no room for the thwarting-potential to interfere with the prediction-matrices in question. Nevertheless, more scrutiny indicates that either

i) the supposed "unknown" is not genuine -- e.g., as when it is known, or presumed-to-be-known, that X is what is to be

chosen in accordance with one's aesthetic disposition, which one may be presumed to know,

or

ii) if the loose structure of the prediction-matrix is such that there is a genuine unknown-- genuine enough not to leave room for the thwarting-potential to work, -- then the prediction itself must also be open-ended -- i.e., indeterminate.

To begin with, unless one had some idea as to what sort of choice his friend A's disposition might commit him (sc., A) to, nothing could have led one to conclude, inductively, that one had propensities similar to A's in the first place. Thus, for instance, one might conclude that one's taste was similar to A's on the ground that both individuals had been known to favour Impressionistic works. But if one had no idea as to what A might conceivably buy (cf. Pears' example again), then one could not be in the position to conclude inductively that A's taste was similar.

Granted, however, that one does have some idea as to the sort of thing A would buy, then one would once more be in a position to "thwart" the prediction. Supposing, however, that one went into the shop with the prediction that one's primary propensity would, like A's, be toward Impressionism, but then thwarted this presumed propensity by coming out with a contemporary work instead. Supposing, too, that

one then found out that A had also left with a contemporary work, and that A had, without one's knowledge, been collecting contemporary works for some time. Then what we should say occurred is not so much that one had failed to thwart one's own propensity, as that one had misjudged A's. Thus what would be at issue would be the disappointment of a "normal" inductive assertion, or assumption, of another's taste.¹¹ The upshot of this, then, is as follows:

If, at the time of the choice to be made, one had not had the faintest idea as to the sort of value the variable 'X' in the prediction-matrix might take, then one would not have been in the position to formulate the inductive prediction in the first place. If, on the contrary, one did have some notion as to what X might be, then one would, by the same token, be in the position to thwart the prediction by avoiding X.

More crucial, perhaps, is the following consideration:

If the 'X' in the prediction-matrix were a genuine unknown, -- i.e., if it were such that one could not deliberately thwart the prediction in question, then it would also follow that such open-ended predictions would be logically independent of the deterministic position. For determinism would only hold if a complete set of determinate predictions could in principle be formulated with regard to the state of the "world". To refute the possibility of self-prediction would suffice to refute that of determinism just in so far

as the predictions involved in what is termed 'self-prediction' are genuine, empirically testable ones. In addition to this, if the unknown in the prediction-matrix were such as to defy "thwarting", i.e. such that the one who makes it had no idea as to what sort of thing it might stand for, then the prediction-matrix cannot, in any event, be regarded as a bona fide prediction.¹²

In general, then, the following conclusion appears to suggest itself with regard to "propensity-based" predictions:

Self-prediction would only be possible in any given instance if there were no possibility of the agent's thwarting it. The latter possibility, however, might only be eliminated if one of the following were true:

- i) the kinesis in question is not voluntary;
- ii) the prediction-matrix is formulated in such a way as to render it impossible for the agent to know which kinesis is predicted, and hence, which kineses might be taken as contrary to the one predicted.

Nevertheless, (i) is ruled out ex hypothesi. And (ii) could only hold in the case of matrices so loose that they did not express empirically testable predictions.

2) Predictions of kineses involving "calculation"

Again, the prediction is to be made with the help of a general matrix. Here, it would go something like this:¹³

Confronted by the same simple position as my friend A of similar skill, I shall make move X, where X is how A would move under similar circumstances, -- whatever X turns out to be.

Here, however, nomological considerations begin to come into play. Problems emerging in this connection will be discussed in the next chapter, when we analyse the distinction between causal determination and nomological determination.¹⁴ Meanwhile, the following points might be worth noticing:

To begin with, one must, for the sake of analysis, distinguish between two levels on which we might speak of the chess-player's move as being "voluntary", viz.:

a) that on which he opts to stay within the bounds of the game at all: for even if he were faced with a position where, for instance, he sees only one move that would remove his king from check, he could, in principle, choose to stop playing the game instead of making the move in question. This is the level which Pears does not explicitly take into account. In his example, the player has pre-opted to stay within the bounds of the game. This is a point that will take on more significance later on.

b) that on which, even within the bounds of the game, the player sees alternative moves open to him.

a) Supposing, we take the case of the player with only one

"rational" move open to him, given that he has pre-opted to play the game to a decent finish. Then, strictly speaking, within the level of the game itself, there is no choice open to him: i.e., it can, on nomological grounds, be "predicted" with near certainty that he will make the move in question.

But then this would not constitute a voluntary kinesis -- at least not on the level we are considering, -- no more than would be the case with one who is sitting a mathematics examination and who sees only one possible solution to a question on the paper. Then, unless one were to behave in a "perverse existentialistic" manner, one would have to put that answer down. But to "predict" that this would be so is tantamount to saying that the given problem has a unique solution, viz., q. It would hardly constitute a factual prediction. If, on the other hand, we were to take the option of moving out of the bounds of the game into account, then, once more, as in the previous sort of example, the would-be agent would in principle be able to "thwart" his own prediction by playing on (if he had predicted that he would throw the pieces to the floor), or by stopping to play (if he had predicted that he would play to a decent finish).

b) The analysis of this sort of instance is very similar to that of (a). To choose one of a number of alternative moves would once again be explicable in terms of propensities, and would hence be subject to the sort of difficulty discussed

under Section 1.1.1. above. It is to be observed that to say that some of the alternative moves are more "rational" choices than others would yield only a specious sort of option: so long as the player sees which moves would be more "rational", he would be nomologically bound to make these moves. This, it may be seen, would take us back to the sort of instance discussed immediately above (sc., the "mathematical problem" instance). If we were to leave the possibility open of his deciding against what he sees as the most rational move, then we should at the same time be leaving open the possibility of his "thwarting" his prediction. (Cf. preceding section, passim.)

Thus it would seem that, both in the case of predictions made on the basis of primary propensities, and in that of predictions of "calculative" moves, there remains the possibility of the would-be agent's "thwarting" his own prediction, given that:-

- i) the prediction is of a voluntary kinesis,
- and
- ii) the prediction, qua bona fide prediction, is to be empirically testable, such that one would be able to tell which kinesis would constitute a fulfilment of the prediction, and which would not.

Hence it follows that at least one sort of prediction, -- viz., that of self-prediction in the sense so far discussed, -- is logically untenable. Hence in turn it follows by modus

tollens that determinism too is untenable -- in so far as the latter entails the possibility of determining all events, relative to at least one observer. We make the latter qualification for the following reason: viz., even if (per impossibile)^{14b}, it were the case that, relative to A, all events except his own voluntary kineses were predictable, then to A, at least, determinism would not hold to the extent that his own "actions" would be indeterminate. And even if A's actions were, per impossibile, predictable by B, A himself could not share B's predictions to this effect. For if he did, it would be tantamount to a case of self-prediction. Hence determinism could not hold for any particular individual: his own voluntary kineses would always remain indeterminate. Admittedly, this argument sounds somewhat tricky, but we shall not have the resources to probe it in depth until later.^{15a} Suffice it meanwhile to say that self-prediction is logically untenable, and hence, that determinism (sc., "hard"-determinism), too, -- in so far as it entails the possibility of self-prediction, -- must be untenable.

1.2. Voluntarism not consequent upon the denial of determinism

But would this be to say, by the same token, that voluntarism is tenable? On the assumption of the "either-or" relation (i.e., that the negation of either entails the positing of the other), it would be. However, on closer analysis, the attempt to interpret determinism and voluntarism as being so

being so related to each other appears to be suspect. For such an assumption would seem to generate the following problems

(inter alia):-

a) If determinism and voluntarism were logically complementary to each other, and if, at the same time, determinism itself were logically at fault, then it would follow that voluntarism should be supportable on logical grounds alone. (Since to deny a logically inconsistent statement would be to make a statement supportable on logical grounds alone.)

Yet, in practice, the voluntarist would not be likely to defend such a position: for the voluntarist would tend to say that there simply happen as a matter of fact to be instances of "free" behaviour, as distinct from instances of non-"free" behaviour. Now such a statement would not be supportable on logical grounds alone. Nor is the voluntarist likely to argue to the contrary.

b) Supposing, then, that voluntarism were to be taken, not as a "tautologous" claim, but as what might tentatively be called an "ontological" one. That is to say, that it is to be taken, not as being supportable solely on logical grounds, but in the sense that there is, as a matter of fact (not of logic) such a phenomenon as "free" behaviour, as distinct from non-"free" behaviour.

Now if the denial of determinism were still to be taken as entailing the affirmation of voluntarism, it might be seen

that 'free' would have to be equated with 'indeterminate'. For if this were not so, there would be no logical link between the denial of determinism and the assertion of voluntarism. In ordinary usage, however, 'free' and 'determinate' apparently do not have the same range of predication, and thus 'free' cannot, -- at least not prima facie, be equated with 'not-determinate'. This we shall now turn to analyse in somewhat more detail.

1.2.1. The status of 'will' in 'freewill'

As a rule, the term 'determinate' and its correlate 'indeterminate' are predicated of events. At the same time, however, voluntarism is often referred to as the "freewill" tenet. Whether such terminology is to be taken as implying that voluntarism involves predicating "freewill", or more strictly, "freedom", of some sort of "mental entity" --viz., the "will", -- we shall presently try to see.

But if, for the sake of argument, to speak of "freewill" were to speak of some mental entity -- viz., the "will" -- as involving free action, then it would follow that 'free' and 'determinate' have different ranges of predication. For "will", or "the will", cannot, without stretching language, be interpreted as an event. If, then, voluntarism were to be taken as ascribing freedom to some sort of mental entity, -- viz., to the "will", --and if, at the same time, 'determinate' were to be predicated exclusively of events, then no logical

connection could be forged between saying that all events are predictable, on the one hand, and saying that there is such a thing as "freewill" on the other.

But it may also be seen that to speak of "a something" called a "freewill" poses logical difficulties. (Par excellence, that with regard to the identity of "wills": e.g., is ex hypothesi "free agent" A's will numerically distinct from ex hypothesi "free agent" B's will? Or again, is A's will at the time of A's performance of K₁ identical to A's will at the time of his performance of K₂?) It would, however, not be relevant here to go into these conundrums at length: suffice it to say that analysis seems to suggest that, if anything is to be said to be free, it is phenomenal behaviour -- kineses, -- not any "mental entity".

Voluntarism, then, need not prima facie^{15b} be interpreted as predicating "freedom" of some mental entity over and above instances of observable behaviour. Nevertheless, this per se does not suffice to show that the term 'freedom' has the same range of predication as the term 'determinate'. For a closer look indicates that an ambiguity in the established usage of the term 'free' has let two categorially disparate senses of it leak into the language. In what way this may be so we shall now briefly try to examine.

1.2.2. 'Free agents' or 'free acts'?

We have suggested that, in spite of the misleading terminology in use, what is sometimes referred to as the

"freewill" tenet need not be committed to the existence of any mental entity over and above the phenomena that are said to be instances of free behaviour. One fact we have not yet taken into account, -- viz., that, in practice, we predicate 'freedom' not only of

a) kineses, or pieces of behaviour,

but also of

b) entities involved in such kineses -- viz., agents.

Thus, on this usage, the existence is implied of an individual which "performs" the free "act" in question, and, by the same token, this "performer" is spoken of as being "free".

This latter extension of the application of the term 'free' poses certain problems with regard to the relation between voluntarism and determinism. More analysis seems to indicate that

i) this sense of 'free' while intrinsic to the voluntaristic tenet, does not admit of being interpreted in the sense of 'indeterminate'. And if not, then to show that determinism is not justified would not ipso facto be to show that voluntarism is justified.

ii) In addition, even sense (a), viz., that in which we speak of acts or kineses, rather than of agents, as being free, -- has its problems. For when one speaks of an act/event as being free, one tends more often than not to do so in a sense where 'free' is not equivalent to 'indeterminate'.

We shall look at each of these points in turn.

i) To begin with, we might note the following disparity between 'free-agent' parlance and 'free-kinesis' parlance:

To speak in terms of free agents would involve the concept of a performer of kineses, whereas to speak in terms of free kineses simpliciter would not. More strictly, the former mode of language would involve the concept of a potential performer:

For firstly, a free agent is not simply any individual that might be involved in a (so-called) "free" kinesis: it is one that is so involved specifically in the capacity of "initiative-taker", or causal agent,^{15c} whatever other individuals might be involved in it in a different capacity.

Secondly, a free agent need not be an individual that tends exclusively to be involved in free kineses in the capacity of performer: he/it may frequently partake in non-free kineses. An individual who once took the initiative of throwing a ball may on another occasion be (non-voluntarily) hit by one.

But he is still said to be a free agent, the same one as the agent who once voluntarily threw a ball, so long as he is regarded as a potential performer. Neither of these two facets need be involved in "determinacy/indeterminacy"-parlance. Moreover, as we shall try to see later,¹⁶ the concept of performer at issue in 'free-agent' parlance is an inconsistent one in so far as it remains unqualified.¹⁷

To speak in terms of free agents, then, would involve concepts not inherent in the mode of speech in which we speak simply of events as being determinate or indeterminate. To speak of free events or kineses and of free agents in a single breath would thus seem to constitute an equivocation, for 'free' would have distinct senses in the two cases.

Thus even if the 'free' in "free-kinesis" parlance were translatable into 'indeterminate', it would not thereby follow that the 'free' in "free-agent" parlance would be similarly translatable. Thus voluntarism, if it is taken to involve the position that there exist free agents, would not follow ipso facto from the denial of determinism. And the "freewill" tenet, at least in the sense in which it is normally understood, is apparently geared to the concept of a free agent.

This much seems sufficient to indicate that the assumption of the "either-or" relation between the two tenets at issue might well merit re-analysis. At this juncture, it might also be relevant to note that there is an additional disparity between the 'free' even in the "free-kinesis" mode of speech and the concept of indeterminacy. If this disparity is a genuine one, then it would follow that the "either-or" relation would be at fault even if it were arguable that voluntarism did not involve the assumption of any sort of entity not involved in "free-kinesis" parlance. The

disparity, then, is this:

a) 'Free' is sometimes used, true enough, in the sense of 'indeterminate': thus we speak of the "free" -- i.e. random -- motion of particles in a physical system. It might be noted in passing that it is this sense of 'free' that is exploited by those who try to derive the voluntaristic position from Heisenberg's Indeterminacy Principle,¹⁸ and Epicurus' argument for the freedom of the soul qua aggregate of freely (= randomly) moving atoms.

b) But 'free' is also used in another sense, even if this is a sense often enough confused with the one referred to under (a). In this second sense, a kinesis is said to be free if it is "self-determined" or "unimpeded". This is the sense exploited by the proponents of "soft-determinism", which we shall briefly look at in the next sub-section.

Nonetheless, on more analysis, it may be seen that neither sense lends itself to an attempt to derive the voluntaristic position from the negation of determinism:

a) Even supposing, for the sake of argument, that 'free' were to be used in such a way as to admit of our speaking of random/indeterminate motion as "free" motion. Then from the premise that, in the final analysis, the behaviour of particles is indeterminate (=free) we could at most derive the position that a fortiori the particles composing our brains are indeterminate in behaviour.¹⁹ But they would be

no more free (this term being ex hypothesi equated with 'indeterminate') than anything else, in so far as everything is to be regarded as being composed of these particles.

And this is to put aside the consideration that the jump from the randomness of the motion of the particles composing the brain to the freedom of the "mind"/"will" might well constitute what is termed a "category-mistake".

This empirical digression might be relevant to show that even if 'free' were to be equated with 'indeterminate', an impasse would lie between asserting the freedom of the sort of thing supposed on empirical grounds to be indeterminate, and asserting the freedom of actions or voluntary behaviour, -- the latter alone being the assertion to which the "freewill" tenet is committed.

b) Finally, to take the alternative sense of 'free' qua 'self-determined' or 'unimpeded'. A little analysis will suffice to show that this sense runs counter to the sense of 'free' as 'indeterminate':

For here, a "free" system would be an ideally determinable one, without any extraneous factors that might obstruct the calculation of the behaviour of the system. It is in this sense that we speak of "freely-moving" particles "obeying" the laws of Newtonian mechanics. It is also this sense of 'free' that is made use of by the "soft"-determinists according to whom voluntary behaviour is free in so far as it

issues from its own "internal" causes without any "external" impediment. As we shall now try briefly to see, the initial impression of unintelligibility that this tenet might give is well justified.

1.3. "Soft"-determinism

The "internal" causes alluded to are ascribed to such "internal" events as decisions or desires. This position is to be held concurrently with the view that every event, internal or external, is determined by other events in its particular causal chain. Thus decisions, desires, etc. must themselves be caused. But what causes are we to ascribe to these in their turn? To say that the causes in question are in the form of further decisions, desires, etc., would lead ineluctably to infinite regress. Thus, it seems, we should have to say that such "internal" events are caused by events of a different order, viz., "external" ones. But to grant this would in effect be to grant that voluntary behaviour is, in the final analysis, caused by "external" events. For if ex hypothesi "internal" event B causes C (a voluntary kinesis), and an "external" event A causes B, then A may be said to cause C with B as a mere "catalyst" or by-product. But now would it still be consistent to say that voluntary behaviour is "free" in a way other behaviour is not? For we have seen that in the final analysis, such behaviour is on a par with any other sort of behaviour with regard to "causes". It thus appears that

to confer a distinguishing property, viz., freedom, on voluntary behaviour would be at best gratuitous.

At worst, the postulation of causal chains with the attendant notions of "internal" and "external" events seems to present us with an inconsistency, viz.: So long as we remain determinist, -- and "soft"-determinism is at least purportedly a form of determinism, -- there would be no room for holding any event to be more "external", more "ex machina", than any other: hence the possibility of "external impediments" emerging from the interlocking of different causal chains would be precluded. For, to be consistent, such interlockings would have to be regarded as being determined in accordance with a higher-level causal nexus. This, however, would be to render the initial postulation of causally independent chains unwarranted -- at least within the deterministic framework. 19b

1.4. Tentative conclusion

Thus, from the foregoing sections, it would appear that if the concept of a free agent is intrinsic to the position of voluntarism, 'free' would not admit of being equated with 'indeterminate': for "agents" cannot consistently be regarded on a par with events, and 'indeterminate' can only be predicated of events. In addition, even if it were to be contended that the concept of a free agent is not intrinsic to voluntarism, the term 'free' as applied to kineses (which are events) would not lend itself to a consistent deduction of voluntarism from

the negation of determinism. This would hold whether 'free' is interpreted in the sense of 'indeterminate', or in the sense of 'self-determined'. For in the former case, there would be an impasse between the application of the term to events dealt with in physics, on the one hand, and its application to voluntary behaviour, -- to what is referred to in the mentally referring statements, -- on the other. As for 'free' being used in the latter sense, -- viz. as 'self-determined', -- it has been suggested that some of the concepts underlying this use of the term (e.g. the dyadic concept of "internal-vis-à-vis-external" events) are themselves untenable.

Hence, even though determinism itself is untenable in so far as it entails the possibility of self-prediction, it does not follow ipso facto that voluntarism is tenable. Hence, in turn, the presumption of the "either-or" relation between determinism and voluntarism must be re-analysed.

Finally, we tried to discuss the position of "soft"-determinism, which, though itself untenable, opens obliquely on to a new approach to the problem at issue. For it does not involve the more frequent error of equating 'free' with 'indeterminate'. Instead, its error is the novel one of ascribing both freedom and determinacy to some sorts of behaviour (viz. voluntary behaviour) at once.

Inconsistencies apart, however, it may be seen that "soft"-determinism is no substantial alternative to the

"either-or" position (sc., that either voluntarism or determinism is justified): for it need not even be at variance with the latter position. To say that either voluntarism or determinism is justified (the "either-or" position) does not preclude the possibility (suggested by "soft"-determinism) that both are justified.

If we are to find an exit from the voluntarism-determinism impasse, then it will not be by trying to forge a synthesis between the two-- a policy which, as we have tried to see in the case of "soft"-determinism, is untenable.

CHAPTER II

THE AGENCY-OBSERVATION DISTINCTION

2. Prospectus

Indications so far, then, seem to be that determinism and voluntarism do not admit of being regarded as logically complementary tenets. Neither, in fact, is justified as it stands: for both are grounded in the presumption that assertions may be made regarding the freedom, or the determinacy, of a given kinesis without specifying the frame of reference of the one who is making the judgement (henceforth simply to be referred to as the "judge"). That such a presumption has grave logical difficulties we shall subsequently try to show at more length.

In general, however, we might try to find an exit from the debacle to which this presumption has led if we said something along the following lines:

Whether a given kinesis is to be regarded as determinate or as free would depend upon the frame of reference of the judge to the extent that all kineses interpreted as the latter's own voluntary actions, together with all kineses at large interpreted to be "intelligent" actions, would remain in principle indeterminate by the judge in question.

As said, this is to put it in extremely general terms:

modifications and elaborations will be made in the course of subsequent discussion.

That one's own voluntary behaviour must be regarded as being indeterminate has already been suggested, indirectly, in connection with the earlier discussion of self-prediction.¹ The latter part of the claim will admittedly sound problematic at this stage. But as it is to form the basis of much subsequent analysis, we shall not attempt to defend it at length for the moment.

In outline, then, the agency-observation distinction is as follows: one cannot be regarded simultaneously in the capacity of agent and of observer with respect to any particular kinesis; hence, by extension, one cannot consistently regard a kinesis both as an action (one that involves an "intelligent" agent) and observe it sub specie naturae as a causally determined phenomenon.

We shall be using the above distinction to work out a conceptual scheme that would not involve the inconsistent notion of absolute-freedom-vis-à-vis-absolute-determinacy.

The attempt to regard only one's own "actions" as in principle indeterminable will be considered but ultimately rejected. We shall then move on to see, briefly, in what way the Kantian view of causality might be relevant to the problem at issue. It will then be suggested that "in-principle-indeterminability" would extend beyond the realm

of one's own "actions". This will finally lead us to a look at the problem of "Others' Actions", which, we shall try to suggest, is, in the final analysis, another aspect of the by now notorious problem of "Other Minds". Both are geared to the detection of "intelligent" behaviour.^{1b}

In order to be able to analyse the relation between the "freedom" aspect and the "intelligence" aspect, we shall also be formulating a subsidiary distinction, viz., that between "first-" and "second-order" terms.^{1c} That the various "second-order" terms such as 'freedom' and 'intelligence' pose the same sort of problem is an issue to be taken up at some length in Chapter III.

2.1. The ontological basis of determinacy and the paradox of self-prediction

We have seen earlier² in connection with the paradox of self-prediction that one's voluntary kineses cannot be determined (= predicted) by oneself. Prima facie, however, others' actions would still admit of being regarded as in-principle-determinable. This much already seems enough to show that the determinacy of a given kinesis has no "ontological" ground: i.e., that it would not do to say that a given kinesis is determinate, or indeterminate, without a specification as to the frame of reference. For a certain kinesis in which A is involved, say, might be regarded by A as a "voluntary" action, -- as a free action, -- whilst by B it might (or

so we may still assume at this stage) be regarded as inductively predictable. We shall eventually see that even to assume that B might predict kineses which A takes to be his (sc., A's) own voluntary kineses has its problems.³ But these problems will not be relevant until later.

Whether a given kinesis is to be taken as determinate, then, would seem to be a function of the frame of reference of the judge in question. So far, to go beyond this would appear to be unwarranted. So for the sake of argument, we shall consider the view that, relative to any given individual, only his own "voluntary kineses" are in principle indeterminable. It will subsequently transpire, however, that such a crude "autonomism" is logically untenable, and we shall have to look for a different basis to which we might gear the concept of (apparent, or relative,) determinacy.

2.2. Autonomism

That one's own behaviour might be in-principle-unpredictable (=indeterminate), whilst others' actions (more strictly, other kineses) are in principle predictable seems to have been the starting-point of D.F. Pears' Predicting and Deciding.⁴ As we saw earlier, the author did eventually gravitate to the more radical position of saying that even one's own behaviour (sc., voluntary behaviour) is inductively predictable. That this position is inconsistent we have already tried to show. However, we have not yet tested the consistency

of taking only one's own behaviour to be in-principle indeterminate. This we shall now try to do.

On the autonomistic tenet, whether a given kinesis is to be regarded as determinate would be a direct function of the identity of the judge in question. The term 'determinate', together with whatever correlates it might be understood to have ('free', for instance, -- but this would depend upon one's usage), would thus seem to have taken on the status of strictly egocentric particulars,⁵ in the following sense, viz.: that they would be rendered redundant by the concomitant use of the "first-person pronoun"; for 'determinate' would never apply to descriptions of voluntary "first-person" kinesis, whilst 'indeterminable' would never apply to any other person.

In addition to this, of course, there is the factor that to interpret such terms as having an egocentric function would not accord with the established use of these terms. For then, there would be no way of explaining how these terms have come to acquire a non-egocentric use at all: Even to say there has evolved a misuse of these terms would not do, for the following reason: for a definite misuse to be established, different speakers would have to concur on this (mis)application of the term; and to assume this would not be compatible with assuming the terms to have originally had an egocentric use at all.

2.3. Causality as a Kantian category -- autonomism rejected

It would seem, then, that the factor(s) to which the application of the term 'determinate' (together with whatever correlates it may be taken to have) is geared may not be pinned down simply to the individual identity of the speaker (judge). At this juncture, a short look at what Kant's analysis of causality has to offer -- in so far as the concept of causality is logically related to that of determinacy -- might be in order. For Kant's analysis of causality appears to suggest, even if very indirectly, that, though the application of the concept of determinacy might be relative, it must be relative in a way different from that assumed in the simplistic sort of "autonomism" just discussed.

Now, the views on causality on which we shall be drawing will be those put forward in the earlier half of the Critique of Pure Reason: there seems to be a pronounced shift away from his earlier views on causality in his second Critique, where freedom comes to be viewed as a sort of absolute cause or motive force. But this equivocacy on the part of Kant does not really interfere with our analysis: suffice it to observe for our purpose that the views to which we shall be alluding pertain to the phase before Kant was tempted to take the "hypostatic" view of cause-freedom which emerges in the second Critique, (q.v., passim).

Now, we find that Kant's earlier analysis of causality suggests a relativity geared not so much to the identity of the individual judge, as to (what we might call) the category of intelligence to which he belongs: thus an individual belonging to the same cognitive (or epistemic) category as the judge would, ex hypothesi, concur with him as to which kinesis is to be regarded as determinate, and which as indeterminate. More closely:

For Kant, causality pertains only to the phenomenal realm, being merely a mode of interpreting or in-forming the world in terms of man's cognitive apparatus. Causality, then, is not a factor in the world-in-itself. Hence, in principle, there might be beings of a different category⁶ who apprehend the world without recourse to the factor of causality. Nor would this have to be regarded as a defect on their part. From this it would follow that such causal laws as enable us to predict -- i.e. determine -- the behaviour of physical systems would also only be relative to our particular cognitive apparatus. To this extent, then, determinacy would be geared to the category-of-intelligence to which the judge in question belongs.

From the point of view of humans, moreover, human action, -- sc., voluntary action, -- would pertain (still on the basis of the above conceptual scheme) not to the phenomenal but to the noumenal realm, and hence not be subject to

causal determination. Yet this would not be to say that there is an ontological, --or, in Kantian language, transcendental, -- difference between such human kinesis as is said to be voluntary on the one hand, and other kineses on the other. This in spite of Kant's own failure to grant this conclusion.

Thus, to be consistent, we should not draw an ontological, or "transcendental", line between human "actions" and other kineses. For the sole difference between the two would be that presentations of other kineses (-in-themselves) are "strained through" the grid of the human cognitive-category of causality, while those of "voluntary" human kineses are not.

Causality, then, is to have no rôle to play in the explanation of ontological or an sich differences; on the same showing, it would not do to subscribe to a concept of absolute determinacy, in so far as the question as to whether a given kinesis is to be viewed as determined is geared to the factor as to whether its causes can be (pre-)determined. What may be said, however, is that relative to the agent in question, i.e. where the identity of the judge coincides with that of the agent, his own "voluntary" kineses would never be subject to the sort of causes which he presumes to determine (or rather, govern) other instances of behaviour."

It might be noted that Kant, in later exposition, erred critically in saying that freedom, as distinct from causation, is absolute. For it may be seen that the freedom from

(phenomenal) causes that human "action" is supposed to have is a consequence of the very suspension of the application of the causality-category. If that category had been applied (per impossibile) to human "action", then the latter would no longer be free in the Kantian sense. But this would also be to say, in effect, that, to the in-principle-conceivable beings who apprehend the world without using the causality-category at all, there need be no difference between the sort of presentation to which humans do apply the category in question, and the sort of presentation to which they do not apply that category.

Lengthy Kantian exegesis would of course be irrelevant to our present purpose. This much, however, has been to suggest one possible conceptual scheme under which the concept of determinacy would be neither

a) absolute, as it is held to be under (Laplacean, or "hard") determinism; for the question as to whether a given kinesis is to be viewed as determinate would turn upon the question as to whether its causes can be ascertained, and the latter in turn has been seen to be relative to the judge's cognitive apparatus;

nor

b) would it be relative in the strictly autonomistic sense --i.e., that the determinacy of a kinesis is a function of the individual identity of the judge.

Instead, we have a concept of determinacy where it is taken as being relative to the cognitive apparatus of the judge. That the Kantian scheme is open to logical objections has been made much of. But whether or not the scheme is itself consistent, it is relevant here to suggest a general direction in which we might seek a consistent interpretation of the concept of determinacy. What has been said here is neither purported to be Kant's views on determinism, nor is it a defence of his views in this connection. Using the sort of conceptual scheme suggested, however, as a tentative indication of the sort of conceptual scheme that would be tenable in the final analysis, we shall now proceed to the agency-observation distinction.

2.4. Nomological versus causal determination

The gist of the agency-observation distinction has already been given in the opening section of this chapter. We shall now try to analyse the factors that seem to call for such a distinction. The remainder of this chapter may be seen as a consideration of these factors in their various aspects.

It might be in order to prelude this discussion with a general remark: The agency-observation distinction may be seen as, inter alia, an extension of the impossibility-of-self-prediction "rule" (cf. p. 7 et seq., supra.) But whereas the latter "rule" would only filter out the possibility of predicting one's own voluntary kineses, the distinction presently to be given would preclude the prediction of any act (kinesis

taken to involve agency) regarded to be intelligent, whether or not it is interpreted to be performed by the judge himself. That "acts" other than one's own might have to be regarded as indeterminable relative to any given judge has already tentatively been suggested in the preceding section, where we considered, if only in general terms, the possibility that determinacy might be geared not to the individual identity of the judge, but rather to his/its cognitive apparatus.

Before going further, it might be as well to try to disentangle two strands in the concept of "determination" which have often been confused. It will subsequently be seen that the two senses are complementary to each other.

The facets to be distinguished may tentatively be labelled:

i) the causal,

and

ii) the nomological

senses of 'determination' respectively.

i) The causal sense is apparent in such sentences as:

Alexander's expeditions determined the course of history.

Here, we find that the individual (or the event⁷) which does the determining interferes with, has a definite hand in, the realm of events it is said to determine. Here, then, the determinant has the capacity of an agent and enters into the level of

events-determined.

ii) An antithetical sense of 'determination' is manifest in, e.g.,

The physicist determined the perihelion of Mercury.

Here, the one that does the determining has the rôle of an observer, or calculator, and is logically precluded from participating on the level of events which he/it is said to "determine". The physicist here is said to "determine" the path, or part of the path, of Mercury in so far as he does one of two things:

- a) calculate it in accordance with established laws;
- b) observe it "neutrally" without deliberately acting so as to "cause" the object he is tracking to behave in any particular way, rather than in any other.

In both (a) and (b), then, the determining element -- viz., the physicist, -- is, at least in principle, causally non-determinant. Rather, the one that "determines" the event in question is said to do so merely in the nomological sense; this generic term is derived from (a), where laws come explicitly into play, but we use it to cover (b) as well, in order to distinguish it from the contrary, viz. the "causal-determinant", sense. True, the individual who seeks to determine a certain course of events in the "causal" sense might have to do some

determination in the other sense as well, but he would have to do so on a different level from that of direct relevance to the present issue.

From this distinction between the two complementary senses of 'determination', it would follow that one could only nomologically determine a certain train of events if one "knowingly" did not interfere with that train of events. Thus one could only nomologically determine a certain train of events if one decided not to play a rôle in it. This point will take on more significance in connection with the later discussion of the relation between determinacy and communication-limits.^{8a}

Alternatively, the point might be expressed as follows: if one chose to be an agent on a given level of events, then one would logically be precluded from predicting -- hence, from nomologically determining, -- events on that particular level.

Hence, to say that A might determine a given course of events, would be ambiguous: for he might determine it causally without determining it nomologically. And the nomological sense of 'determine' alone is that which is strictly speaking involved in the concept(s) of determinism and determinacy.

With one's own "voluntary" kineses, one decides to determine a certain course of events-- however short -- causally. Thus, for instance, when one decides to throw a ball, one seeks to causally-determine the trajectory of the ball.^{8b} (Admittedly, this is not a very rigorous formulation: one does

not have the exact trajectory in mind when one decides to throw a ball. But for the present purpose, this description should be adequate.) With regard to one's own voluntary kineses, then, one decides to cause them in the capacity of agent, but one does not determine them as an observer, in the nomological sense of 'determine'.

In the example given, in so far as one's throwing the ball is to be taken as voluntary, one would be teleologically biased towards the event of the ball's being thrown as against its not being thrown. Thus one would not be in a position to observe the outcome as a mere phenomenon, with a neutral eye.

But to another individual, ⁹A, what B regards as his own voluntary kineses may, at least prima facie, be observed as a "mere" phenomenon, to the extent that A is not involved in it qua agent (or does not suppose himself to be so involved). (Subsequently, this position will have to be qualified, but to enter into these qualifications would not be relevant at present: see section on Others' Actions, infra.)

2.5. First- versus second-order terms

To interpret a kinesis as a voluntary act, we should have to "read" intelligence "into" the supposed agent. But in order to speak in terms of intelligence, we should have to do so on a different level from that on which we speak of events as mere observed phenomena, sub specie naturae. Thus we should have an "agency" level-of-discourse, as distinct from an

"observation" level-of-discourse. The terms we use when speaking on the former level we shall call 'second-order terms', those in which we speak of events sub specie naturae, 'first-order terms'. The remainder of this section will be an attempt to explicate this terminology, and to clarify and defend the position to which it is geared.

The extent to which a voluntary agent must be supposed, for the sake of consistency, to be at the same time an intelligent agent may perhaps be seen from the following considerations:

For A to be regarded as a "voluntary" agent, he would, inter alia, have to be involved in a kinesis which conforms to his decision, desire, or what in general involves "intentionality". But this in turn would involve his being able to tell when the kinesis in question may be said to have occurred, and when it may not. That is to say, A must be able to observe what sort of phenomenon or phenomena are peculiar to the occurrence of the kinesis in question. And this in turn would be to say that in order for B to come to the judgement that A is a voluntary agent, he (sc., B) would have to "observe"¹⁰ that A can observe. But B's "observation" of A's observation-potential would have to be regarded (for consistency's sake) as being of a higher logical order than A's observation-as-judged-by-B. The distinction in levels here may be seen to be isomorphic (but not identical) to the more familiar one of object- versus meta-language. For B's "observation" of A's

observation might be expressed somewhat as follows:

A said, 'The cat sat on the mat'.

which, in toto, would be in the meta-language. As against this, A's observation,

The cat sat on the mat.

would be in the object-language.

To say that A is a voluntary agent, then, would presuppose the tenet that A is an observer, or a potential observer. For he must be able to tell what phenomena (i.e. observations) are peculiar to the (voluntary) kinesis in question, and hence, must be able to observe the kinesis. If he were not able to distinguish this from other kineses, then the kinesis in question cannot intelligibly be said to be voluntary. Granted that to say that A is a voluntary agent is to say (inter alia) that he is a potential observer, then to speak in terms of voluntary acts or agents would be to speak on a higher level from that on which we speak of mere ("unintelligent") phenomena.

We thus say that to speak in terms of the latter is to speak in first-order terms, whilst to speak in terms of voluntary acts, intelligence, or any other concept involving that of the potential to observe is to speak in second-order terms. First-order terms, then, pertain to the "observation"-level of discourse, as opposed to second-order terms which pertain to the "agency"-level of discourse.

In the first instance, second-order terms are applied

when the judge and "agent" co-incide -- i.e., when one refers to one's own voluntary kineses. Hence the opposition between this level of reference and the "observation"-level of discourse, where the judge is involved merely in the capacity of observer with respect to the field of events referred to.¹¹

Supposing, however, that we were now to introduce the factor of colinguality and the possibility of the judge's communicating his predictions to the would-be agent, however, it may be seen that second-order terms may be extended to others. But this is a problem that we shall begin to look at in the section on Others' Actions, and, more closely, in the final chapter.

2.6. The distinction misapplied: O'Shaughnessy's
'Observation and the Will'

In the present section, we shall try to analyse briefly the respective fallacies attendant upon

a) assuming that there is an ontological difference between the sort of kinesis one regards as voluntary and the sort of kinesis one regards sub specie naturae:

b) assuming that (in O'Shaughnessy's words) "there is no comparable difficulty posed by the idea of observing the action of others...",¹³ as against that posed by that of observing one's own action.

Both these fallacies have been committed in a context where the impossibility of the agent's observing his own act is in fact conceded -- viz., in Brian O'Shaughnessy's Observation and

the Will.

The two fallacies will be analysed in turn, the former at more length -- for the latter opens on to the problem of others' actions, a problem to be probed more closely in subsequent sections, as we have mentioned time and again. To begin with, a brief preliminary analysis of the agency-observation distinction to the extent that it is granted in the article in question.

In O'Shaughnessy's somewhat figurative terms:

'Suppose you are engaged in an action like... writing a letter, and suppose that you begin to wonder why...you cannot observe that action. Then I think one of the most natural answers to come to mind is as follows. It is the essential function of observation to apprise us of the world we inhabit, whereas this that I am doing is still of my world. This is not yet a part of nature, of the status quo, of what is, but is on the brink -- on the brink of becoming so.'¹⁴

In less poetic terms, the analysis of this might be as follows:

One cannot observe one's action because the kinesis in which it consists has not yet been performed. Once it has been performed, it is no longer an action as such, but a fait accompli, which, being past, is beyond observation. In a sense, when one sets out, per impossibile, to observe one's "action", one is looking in prospect: all observation

consists in seeing "what will happen next", with a neutral, and, in a sense, inquisitive eye. One asks, 'What will happen next?'. Then one observes the occurrence in the next instant, and one's question is answered. But now, if what one sets out to observe is one's own action, one could no longer ask, 'What will happen next?' -- for the simple reason that one has decided what is to happen next.

It may, of course, happen that one's decision is subsequently thwarted by (what would normally be called) external circumstances: One may for instance decide to pick up article X, then find that someone else ends up appropriating it instead, before one can do so oneself. But in that event, we should say, not so much that one's observation has turned out contrary to one's prediction, or even expectation, as that one's decision has failed to be realised. The decision itself is not altered, and the fact remains that one has decided in advance what is to ("soll" rather than "wird") happen next. What one observes, then, gives one information, but what one performs qua agent has already been decided and is hence beyond novelty and beyond observation.

a) Having apprehended the logical disparity between performing a kinesis and observing it, however, O'Shaughnessy goes on to commit the all-too-familiar error of holding that

'By action we irreducibly alter the state of the universe',^{14b}

(where by 'we', O'Shaughnessy presumably means human beings, and possibly such animals as humans might credit with the potential for voluntary action,) and that

'We are ultimate sources of change in the environment in a way a river or hurricane is not.'¹⁵

It may be seen on analysis that each of these statements refers both on the agency-level of discourse and on the observation-level. If this is so, then the statements would be logically at fault.

To take the first statement, for it will be seen that the second one poses the same problem as the first): It is apparent that this statement is committed to both levels of discourse at once, in so far as it contains simultaneous references to "action" and to "universe", where by the latter term, O'Shaughnessy seems to understand the realm of "natural" observed events. For if the term were understood to comprehend all events at large, then to say that some of these (viz., "actions") "irreducibly alter" the whole train of events would be unintelligible. Hence the implication that "action" is something over and above the world of observed events, and thus ontologically different from such phenomena. We shall now try to see where this position errs, with specific reference to the dichotomy postulated between "action" and the "natural" universe.

To say that action alters the natural order of events

is to say that action (again) thwarts the natural causal order -- the order established, ex hypothesi, on empirical investigations. What would then result on the imposition of this literally supernatural "action", then, would be something not in accordance with the causal order. Hence the world at large, being an interplay of such quasi-divine interference on the one hand and "natural" events on the other, could not consistently be seen as pertaining to any causal order at all.¹⁶ Or if a causal order is postulated at a higher level so as to take into account this quasi-divine interference, then this newly found order would govern the world at large, so that it would make no sense to speak of "action" (part of this order) as altering the rest of the order. It may also be seen that if by action we alter the natural order, then the action, or activity, of scientific investigation itself would impede the very (causal) order it is supposed to try to nomologically-determine. (Cf. the Indeterminacy Principle. Also see criticism of W. Wick's Truth's Debt to Freedom,^{17b} Chapter III, infra.) That this is impossible, however, is, as we have tried to see, the very basis of the agency-observation distinction. That action "irreducibly alters" the state of the universe thus does not admit of being concurrently held with the distinction mentioned.

It will be seen that the above argument is structurally similar to the established refutation of the tenet of divine

interference: in both cases, the attempt to postulate an order of events above the natural one may be shown to result in either a dissolution of the natural order, or in the "supernatural" order being engulfed in the natural one. If the tenet of divine interference is logically insupportable, then so, by the same token, is the tenet in "supernatural" human interference. And if the statement that action irreducibly alters the world is untenable, then so is the view that "we (sc., human beings, and possibly such animals as humans credit with the potential for voluntary action) are ultimate sources of change in the environment in a way (natural objects) are not."¹⁷ More on this, however, in the following chapter.

Before leaving the point at issue, perhaps it would be relevant to try to see where the impression of the "irreducible" potential for changing the universe has cropped in, and why it dissolves on scrutiny:

The kinesis which one's prospective act constitutes, -- e.g. the depression of a button, -- comes to be viewed teleologically, as against sub specie naturae . By the same token, to the extent that the complementary event (the event whose possibility is complementary to that of the prospective act, -- in this case, the button's remaining undepressed) is not viewed teleologically, it is considered as a natural event. Hence, the teleologically viewed event -- one's prospective act, -- comes to be viewed, at the same time, as running counter

to the natural order. Thus, if A decides to press the button, and we ask him, 'How do you know you will press the button?', it would be irrelevant for him to reply, 'Because the event is predictable from known causal laws.', or anything to that effect. Instead, the most reasonable sort of reply A could make would be something like, 'Because I've decided to and my mind is made up.'

The answer, that is to say, would have to be in second-order terms, such as 'decided'. And it is these terms that give a semblance of the "supernatural" to those kineses which one views as one's acts, in so far as such terms are not on the "observation"-level of discourse. That it would nevertheless be fallacious to view one's acts, or the kineses constituting one's acts, as being ontologically disparate from "natural" events we have already tried to discuss.

b) Now to analyse briefly the second fallacy, viz., that of viewing "the actions of others" as "of the world". This view comes dangerously near to what we have termed "autonomism", if it does not lead us right into it.

To the extent that others' actions are (per impossibile)¹⁸ taken as being "of the world", they cannot be simultaneously regarded as being capable of "irreducibly altering" the world. The reasons for saying this we have already discussed earlier in this section. And if they cannot be regarded as having this potential, then it becomes difficult to see to what extent they

are (on O'Shaughnessy's scheme) to be regarded as "actions" at all. For we are at the same time supposed to assume that action --sc., action at large, -- irreducibly alters the world. Hence it seems we would have an inconsistent terminology. This aside, it would seem that whether a given kinesis is to be viewed as a "world-altering action" would turn upon the identity of the individual judge-cum-agent. And this would be, in effect, to take us back to autonomism.

To hold that a given kinesis constitutes an "action" -- viz., another's action, -- and at the same time to hold that it is "observable" and "of the world", would thus seem to be inconsistent with the assumption that "by action, we irreducibly alter" the world. Or, if it is to be argued that some actions -- viz., "others' actions", -- do not alter the world in the same "irreducible" sense as one's own actions do, then it would seem

- i) that what constitutes an action at all has not yet been clarified;
- ii) whether or not an action, however defined, is "of the world" would turn upon the identity of the individual judge, and hence the "worldliness" of an action can have no ontological basis.

2.7. Others' Actions

Even on the assumption of a rudimentary sort of agency-observation distinction, such as that assumed in

O'Shaughnessy's Observation and the Will, it thus seems, we should remain with the difficulty of explaining how the term "action" came to be applied to kineses in which one is not directly involved. This immediately suggests an affinity with the more familiar problem of "Other Minds". It will subsequently be argued that both are in fact aspects of the same issue, viz., that of ascribing "intelligence", --or, what amounts to the same thing, "observation-potential", -- to others. We shall be arguing, too, that even so-called "others' actions", in so far as they are taken to be actions, are in principle not observable, --or, more strictly, not-observed, -- as being "of the world", as opposed to the sort of event taken into account in (classical) mechanics.

That the ascription of agency to an individual also involves ascribing observation-potential to the latter, we have already discussed (see pp.51 ff., supra). That it would, in addition, involve a degree of colinguality between judge and supposed-agent seems to be suggested by the following consideration, viz.:

In so far as the supposed agent is interpreted as having observation-potential, he may be taken as communicating his presumed observation to the individual who judges him to have observer-potential. That the message read might be unintended or misinterpreted is for the moment irrelevant. It may be seen that the degree of colinguality may vary between

different judge-"agent" pairs. It may also be seen that such colinguality, in so far as it is geared to the factor of observation-potential, can hold only between judge and presumed-agent, not between judge and presumed "mere phenomenon". For the possibility of a presumed "mere phenomenon" having observer-potential is logically precluded. (See pp. 51 ff., supra. Cf. also clarification and elaboration of this argument, Chapter III, passim.)

Supposing, then, that we had a judge-"agent" pair, A and B, such that A and B could communicate with each other to the extent that A could inform B of A's predictions of B's voluntary kineses.

Then A would be able to tell B what the latter would, e.g., "decide" to do in the next instant. Here, we should have a recurrence, -- or at any rate, overtones of, the paradox of self-prediction (cf. pp. 7 ff., supra).

And yet, granted that in principle the judge (viz., A) could observe "another's actions" (viz., B's), then there should be no inconsistency in supposing that A could predict B's actions. At least, not until a proviso has been given as to what sort of instance would admit of being observed (sc., sub specie naturae), but not of being predicted. As we shall subsequently try to discuss, however, the inconsistency involved in entertaining the possibility of predicting presumed-to-be-voluntary kineses lies in the assumption that we can observe

others' presumed-to-be-actions, in the same way as we observe the behaviour of statistical-mechanical ("clockwork") systems.

The relationship between the ascription of (intelligent) agency, observation, and prediction, will thus form the subject of the next and final chapter.

CHAPTER III

Λ-LANGUAGE

3. Prospectus

In the second chapter, we have tried to work towards a consistent alternative to the concept of absolute determinacy. We had also tried to suggest that, even if the concept in question is to be viewed as being in some sense relative to the frame of reference, it would not admit of being geared simply to the identity of the individual who uses it. For to regard only one's own voluntary kineses as being in-principle indeterminate would pose logical problems of its own.

In so far as the factor of determinacy involves that of nomological-determination, and in so far as the latter in turn involves that of observation (pp. 48 ff., supra), the above problem opens on to the question as to whether only one's own "acts" are in principle unobservable (sc., sub specie naturae).

As we have seen, one of the problems posed by autonomism (pp. 41 ff., supra) is that, if it is inconsistent to entertain the possibility of self-prediction, then, on the same showing, we should preclude the possibility of the agent's being informed of predictions of his own voluntary kineses (or would-be kineses). Yet if "others' actions" were

in principle predictable, and if the judge in question could communicate his predictions, and the grounds of these, to the would-be agent, then the agent would (per impossibile) be in access to predictions of his own "actions". Hence we should have a recurrence of, or a close variation on, the impasse presented by the paradox of self-prediction.

Thus it would seem that an analysis of the factors to which the application of the concept of determinacy is relative would have to take into account the element of colinguality ~~+~~ the extent to which communication might be assumed to hold between judge and presumed agent. This element is to play a significant role in the present chapter. Eventually, we shall try to suggest that determinacy may be seen to be relative to the factor of Λ -language.

The formulation of the latter concept would involve an analysis of the extent to which the judge's application of second-order terms, such as 'freedom' or 'intelligence', is geared to (inter alia) the way in which first-order terms might be applied to himself.

Before being in a position to formulate the concept of Λ -language, however, we shall first have to try to discuss the fallacy of supposing second-order terms to have an ontological basis in the same way as do first-order terms. This will be done with specific reference to W. Wick's Truth's Debt to Freedom.¹ Here, we find in effect a concession of the logical disparity

between first- (in Wick's terms, "empirical") and second ("canonical") order terms, concurrently with the attempt to place them on the same ontological basis. To this extent, Wick's position seems antithetical to certain implications in O'Shaughnessy's article,² where a rudimentary sort of agency-observation distinction leads --though not always consistently³ -- to an autonomism where the observability of a kinesis comes to be geared to the identity of the individual judge.⁴

The application of second-order terms is geared to empirical factors, but only in a way relative to the $\wedge$ -language between judge and agent. Hence the implication in Wick's paper that freedom, for instance, has an application independent of who is using the concept would be erroneous. And what goes for freedom would go for all second-order terms at large.

3.1. Wick's analysis of "activities characteristic of intelligence"⁵

So far, O'Shaughnessy's thesis seems to have left us with the problem (inter alia) of accounting for the fact that we do in practice refer to others as agents, or performers of "actions". For if only our own actions were in principle unobservable and "not of the world", then unobservability and "otherworldliness" could not constitute criteria as to what sort of kinesis qualifies as an "action" in general. And no differentiae had been suggested for "action" other than "otherworldliness" and unobservability. This much we have

already seen.

Now, in Wick's Truth's Debt to Freedom, we find, prima facie, at least, an issue from this debacle. For Wick attempts to interpret "activities characteristic of intelligence" as being ontologically distinct from "everything in nature"^{6*}, so that whether a given kinesis is to be considered "not of the world" or "not in nature" would no longer depend upon the identity of the individual judge. Thus, an exit seems to emerge from the difficulty of ascribing "action" to others.

However, on further analysis, it will be found that to assume an ontological difference between "intelligent activities"⁷ on the one hand and "natural" kineses on the other would not be compatible with the distinction between first- and second-order terms, -- a distinction which Wick in effect makes, and which must, if one is to be consistent, be made whatever one's terminology or conceptual scheme.

Before proceeding to find a genuine solution to the problem at hand, we shall first have to look at Wick's thesis:

The author tries to argue,

- a) that intelligent activity in general cannot, in consistency, be explained in terms of empirical causes, -- at least not qua intelligent activity;
- b) that, to this extent, such activity is to be viewed as

* No italics in the original.

"free".

That such activity cannot consistently be explained in accordance with causal laws, such as would enable it to be predicted by the agent, we have already discussed. However, the indications so far also seem to be against viewing such activity as "free" without provisions. (That such activity is "free", in the sense of 'free from natural causal laws', has already been implicit in O'Shaughnessy's paper, of course, -- where action (i.e. intelligent activity in general) was deemed to have a "world-altering" (which is tantamount to "world-defying") potential. But, as we have seen, this aspect of the paper had never been rendered compatible with the autonomistic aspect of it.)

Meanwhile, to recur to Wick's paper: here, it is said that

"...all talk of truth would be utterly pointless if there were nothing to it but causal influences that induced me to say or think this, while causing you to opine that, -- nor indeed would it make any sense to talk of thinking or opining, which involves reference both to an object and to an objective, which is thinking what is in fact the case."^{7b}

By 'objective' here, the author may be presumed to be referring to the "empirical event" of opining or thinking (though whether thinking that-p may be viewed as a finite event is extremely dubious), whilst by 'object', he may be taken to

be alluding to the opinion opined (viz., that-p). That a simultaneous reference to both object and objective involves logical difficulties may once again be seen from the object-language/meta-language distinction --to leave aside for the moment the first-order term/second-order term distinction.⁸ For on the assumption that a given sentence cannot be on more than one logical level (object-language level, meta-language level, etc.) at once, it would be unwarranted to interpret a sentence describing an opinion or thought as describing both an object and an objective.

Thus far, at least, Wick seems to have apprehended a genuine problem: logical errors are consequent upon "talking about truth" on a par with talking about empirical events (e.g. kineses). But eventually, he is led to make an ontological distinction between what might be termed truth-involving events and other ("natural") events, in the sense that he takes truth-involving events as being different things from "natural" events. This position is to be distinguished from the valid distinction, that there is a logical (as against ontological) difference between reference to events-as-involving-truth on the one hand, and to events-sub-specie-naturae on the other.

In order to be able to analyse Wick's argument in this connection, we might first look briefly at his distinction between what he calls "empirical" concepts on the one hand and "canonical" ones on the other. This is something which, as we

have suggested, amounts to a distinction between first- and second-order terms. Wick expresses the distinction as follows:

'...the concept of a bacterium is an empirical concept in a sense in which the concept of (e.g.) an empirical science is not...we identify instances of the first by referring back to instances that we have met, however complicated the procedure of identification and classification may become. But to identify a scientist or an instance of scientific inquiry...[would have to be carried out] in relation to what I shall call a canon, rather than in relation to individuals previously observed...A scientist...is not recognizable as a scientist except by the canon of the science...and the concept of this is not empirical in the usual sense. It is, as we say, "only an idea", the archetype of a kind of norm-regulated activity. We have to understand ... "the scientific game".⁹

The distinction here, then, is between concepts whose exemplifications have empirically verifiable traits in common -- i.e. observable traits in common, -- and concepts whose exemplifications have to be identified by extra-empirical means. Further on, Wick says:

'...while everything in nature happens according to rules, the activities characteristic of intelligence are aimed at being in accord with the conception of a rule...'¹⁰

That is to say, the activities "characteristic of intelligence" are a canonical form of behaviour. And this is to say that those said to exemplify "intelligent" behaviour must be able to

observe what constitutes behaviour in accordance with the canon in question, and what does not. This in turn would take us back to the concept of observer-potential, discussed earlier (viz., pp. 51 ff.). The distinction being made here by Wick, then, amounts to the distinction between elements with directly observable traits in common, and elements that can themselves observe what sort of phenomenon would accord with a given canon -- e.g., what sort of behaviour would accord with (to use a somewhat simplistic example) 'Always put up an umbrella in rainy weather', and what would not. And this is tantamount to the distinction made earlier between first- and second-order terms.

Having seen that Wick does observe such a distinction, we shall now proceed to examine how he misuses it, in the final analysis.

To recur to the extract just quoted: here, "everything in nature" seems to be counterposed against "the activities characteristic of intelligence", thus suggesting that the two are mutually exclusive. If this were not so, then the contrast would be a vacuous one. Yet, as Wick himself concedes, the sense of the term 'explanation' varies

"according as to whether we are thinking of (an) activity as a process in the context of other natural processes--which we can always do"¹¹*

* No italics in original

or, as he puts it,

focussing our attention on the specific characteristics it has as an intelligent activity.¹²

This exposition seems to be inconsistent in a number of respects:

- i) intelligent behaviour, in spite of the earlier opposition to "everything in nature", is said to admit of being regarded in the context of "other" natural processes -- hence the implication that such behaviour is, after all, "natural".
- ii) But then, again, it comes to be spoken of as having "specific characteristics", and to regard it as having these characteristics is, at the same time, taken as being alternative to regarding it as a "natural process". Nevertheless, it might be asked, if it really did have specific characteristics, then surely to regard it under the "natural" aspect, -- i.e., as not having these characteristics, -- would not be an alternative, but a defective way of looking at it?
- iii) Supposing, after all, that intelligent activity were outside of "everything in nature", then just where would it be? It is to be noticed that to say that intelligent activity is not part of "nature" is not simply a figurative way of speaking: for it involves the position that it is not under any circumstances to be regarded as "natural", and that

there can be no alternative, "sub specie naturae", way of referring to it. As we have already seen in connection with O'Shaughnessy's paper, this is liable to lead us into a problem very like the classic one of the relation between God and the universe.

iv) Apart from this, there is the problem as to whether we are to distinguish between "intelligent" activities and "natural" processes in accordance with empirical criteria, or in accordance with "canonical" ones. For thus far, at least, no third genre of criterion is in sight.

Little analysis is needed to show that we cannot consistently say that empirical criteria suffice to distinguish "intelligent" behaviour from other sorts of behaviour, for ex hypothesi, the former is not empirically identifiable. So it would seem that we should have to use "canonical" criteria to distinguish "canonical" behaviour. But even prima facie, there appears to be something circular -- whether or not "viciously" -- about using canons to determine what sort of activity involves the application of canons.

To look at this at somewhat more length before trying out a new focus to the problem as to how such terms as 'free-agent' or 'intelligence' come to be applied.

If intelligent activity were to be taken as being associated with "specific characteristics", as Wick assumes it is to be, then there would be certain characteristics, -- a, b, and c, say, -- that pertain to intelligent activity

over and above other empirical characteristics -- x, y, and z, say. Hence, we should (per impossibile) say, for instance, 'This activity has a, b, and c in addition to x, y, and z, and is thus an intelligent activity' -- in one breath.

To borrow for a while the hackneyed analogy (or conceit of the "language-game", however, the above position may then be seen to say that one can speak in terms of "intelligence" and in terms of the various empirical concepts within the same language-game. And this in turn would be to say that the same set of rules should suffice to govern both the application of empirical concepts, -- e.g., x, y, and z, -- and that of the concept of intelligence. However, the following consideration shows that the same set of rules cannot be taken to govern the application of the term 'intelligence' simultaneously with that of the various empirical concepts:

The rules of the game would have to include, ex hypothesi,

i) rules as to when to apply the empirical concepts in question;

but they would also have to include

ii) rules as to when to apply the concept of intelligence.

We have already tried to see that the concept of intelligence involves the factor of observation-potential. Thus the rules of the hypothetical game would have to indicate when given phenomena/individuals¹³ may be interpreted as having

observation-potential. But observation-potential itself may be seen primarily as the potential to apply the rules of the very "language-game" in question. For instance, to be able to tell when a decision (cf. pp. 51 ff., supra) may be said to have been realised, one should have to be able to apply either empirical concepts-- i.e., follow the rules referred to under (i), -- and/or to apply the concept of intelligence itself --i.e., to follow the rules referred to under (ii).

Thus, the hypothetical set of rules in question, call it R, would have to define when someone may be said to be applying R itself. And the possibility of this is of course logically precluded.

Yet, at this point, it might still be contended that the rules governing the application of the concept of intelligence need not involve a vicious self-reference, in so far as these rules need be recursive only with respect to another part of R --but not with respect to themselves. That is, that they need only refer to the rules governing the application of empirical concepts, such that to be able to tell if something is intelligent, we need only test whether it has the capacity to apply empirical concepts. But to this, it might be said that, in order to be consistent, we should never be in a position to tell when/whether to apply the concept of intelligence to individuals which themselves make use of the concept

(sc., of intelligence). Nor would "Gödel's Theorem" offer an exit from this impasse: but that is something we have no cause to enter into here.

In this connection, then, we might conclude that to postulate "specific characteristics" of intelligence would only involve us in a vicious self-reference -- as may be seen from the "language-game" example.

3.2. Selective-behaviourism

The concept of intelligence, then, together with any other concept involving the factor of observation-potential, cannot consistently be associated with a specific phenomenon that is on a par with and "additive to" other phenomena. Thus we have yet to show how such terms such as 'action' (i.e., 'voluntary kinesis') have come to be applied on an ostensibly non-relative (as opposed to egocentric) basis. The O'Shaughnessian paradox of the exclusive unobservability of one's own actions, existing simultaneously with the (presumed) phenomenon of "others' actions" still remains. The application of second-order terms at large, it seems, cannot be geared to empirical factors on any simple basis, such that it could be said which specific empirical characteristics are indicative of intelligence, and which are not, or such that these terms might be interpreted as referring to phenomena over and above other phenomena.

It might seem that the foregoing section has not really progressed beyond what had already been said in the section on

first- and second-order terms. But by now, the following points also seem to suggest themselves, viz.:

a) whatever, if anything, are to be regarded as the specific characteristics of intelligence must be viewed as pertaining to a different logical level, or category, from those referred to by empirical terms,

taken in conjunction with

b) that, in so far as such characteristics are to be at all "real", in so far as they are to have any ontological basis at all, they must somehow belong "in nature", alongside less dubious empirical characteristics. For, as we have seen, it would not be tenable that the specific characteristics associated with "canonical" behaviour should themselves only be identifiable in accordance with canons.

The possibility thus suggests itself that these characteristics might consist of a complex of empirical characteristics, no one of which would suffice alone to qualify the bearer as "intelligent". We shall now try to see why such a view, too, is untenable, and eventually, that any attempt to gear the application of second-order terms to factors which fail to take into account the judge's own Λ -language (or more strictly, the limits of it) would end in a logical debacle.

The sort of view referred to in the foregoing paragraph is exemplified in particular by so-called "logical behaviourism" -- not the Spinozian form of it, but the more rampant form of

it which selects certain complexes of behaviour as being "intelligent", i.e. as being expressible in "mental" terms, to the exclusion of other complexes of behaviour. It will be seen that this position exemplifies the sort of tenet referred to in the following respect, viz.: the factor of "mind" or "intelligence" is no longer geared to any particular empirical characteristic or simple sum of empirical characteristics, but to a constant concomitance of certain characteristics -- e.g., A is said to be intelligent only if he/it manifests dispositional property d in the presence of factors α , β , and γ , say, together with dispositional property e in the presence of factors δ , ϵ , and ζ , say. By 'selective-behaviourism', then, we shall understand the view that certain complexes of behaviour are unconditionally to be regarded as "intelligent", as against other complexes of behaviour which are unconditionally to be regarded as "non-intelligent", in so far as they are seen to be defective with respect to certain dispositional properties. The term 'selective' is to set the position we are considering apart from Spinozian behaviourism, which takes any piece of behaviour as being expressible in mental terms, or, for that matter, in terms of any of the infinite remaining attributes of God/Nature.¹⁵

We shall now try briefly to see that that selective (as against Spinozian) behaviourism is as much committed to "hypostatizing" intelligence, -- and hence, all second-order

terms en bloc, -- as any of the positions discussed so far.

Now, if it involves a "category-mistake" to speak of intelligence in the same terms as we should speak of the empirical characteristics that it ex hypothesi involves, just as it would to speak of a collection in the same terms as we should of its elements, then intelligence/mind should analogously be related to non-intelligent phenomena as a collection or complex to its elements at least to the following extent, viz. that it should be specifiable, in the case of "defective" (non-intelligent) instances, precisely what the defects are, and this without resorting to "mental" terms. Mutatis mutandis, with a collection, -- say, a string quartet (sc., the group), -- we should, given a defective collection, -- say, a cellist and a violist, -- be able to specify just what is/are missing, (in this case, a pair of violinists), and this without referring to the desired complex as such (e.g., here, 'violinist' would be explicable in terms other than 'string-quartet'). Similarly, with complexes rather than collections, it should be specifiable--non-circularly, -- how the missing elements should be related to the elements already present.

An analogous procedure, however, is not apparent in the case of "intelligent" versus "non-intelligent" instances of behaviour. For, as yet, the question has yet to be answered as to which empirical dispositional characteristics would go to make up "intelligent" behaviour. To try to specify these

in mental or second-order terms would simply constitute an ignoratio elenchi. For if the problem cannot be answered except in "mental" or non-empirical terms, then strictly speaking, it cannot be answered at all.

Thus it seems we are still left inside the vicious circle with an irreducible "mental" or "canonical" precipitate. And this would be tantamount to taking "intelligence" to be a phenomenon over and above other (empirical) phenomena -- the very thing from which we are trying to find an exit.

3.3. The empirical basis of colinguality

So far, then, the concept of intelligence, and with it, all second-order concepts en bloc, have resisted being based consistently on any empirical grounds. Yet, in practice, the terms tend to be applied with a fair degree of consistency -- even though, perhaps, no more consistently than the so-called "value-terms" have tended to be used. The relation between second-order terms and value-terms will gain relevance in a later section. Meanwhile, to recur to the way in which second-order terms are related to empirical factors:

Earlier, (Section 2.5., pp. 51 ff.) we had suggested that, where A judges B to have observation-potential, A and B must have a certain degree of colinguality. Now to track some of the consequences of this factor in relation to the (as yet unfound) empirical basis of second-order terms.

An interesting but nonetheless fallacious suggestion

in this regard has been put forward by Norman Malcolm in Knowledge of Other Minds.¹⁶

Here, Malcolm asserts that it would make no sense to ascribe understanding to anything that does not have something like the human face or body, no matter how many intelligible sounds it makes. The significance of this pronouncement we shall try to see a little later. Meanwhile, however, it seems to invite at least two objections, viz.:

i) the attempt to gear "intelligence" or "understanding" to a single empirical factor (viz., that of the "human-face-or-body") is suspect, as we shall try to indicate in the following counterexample:

Among automata, or, more particularly, between two automata with the same information-reception-cum-transmission capacity, the one with humanoid features might, prima facie, qualify as intelligent, but not the one which cannot, without a far stretch of imagination, be said to resemble a human being physically. Thus, on Malcolm's injunction alone, without any proviso in mitigation of it, to add artificial limb-like structures and oculoid headlights to a computer might suffice to transmute it into an intelligent individual -- even while its capacity to communicate remains the same. (Thus whereas formerly it used to "reply" verbally through a transmitter, it might now be made to communicate its answers, to the same range of questions, by gesturing with its "limbs" and "eyes", and thus

becomes "intelligent".)

Such an interpretation of 'understanding' would seem incompatible with the usual sense of the term.

ii) In addition, Malcolm's criterion fails to take into account the fact that different judges would have different notions as to which computers may be said to have "something like the human face or body".¹⁷

In spite of these apparent defects in Malcolm's criterion, it might be relevant to try to see what considerations might conceivably lead one to assume such a criterion. This we shall do in the following sub-section.

3.3.1. Physical characteristics of the judge

Malcolm's injunction against applying the concept of understanding to creatures which have ostensibly nothing like humanoid features might perhaps be analysed as follows:

Faced with such a creature, which nevertheless makes what might initially pass for "intelligent" utterances, we might be led to question whether these utterances are, in the final analysis, made on the basis of the reception of information, with the function of transmitting information. (We may assume here the point made earlier -- viz., on pp. 51 ff., -- that non-indicative uses of language also involve observation-potential.)

Information would thus once again involve observation-potential, in so far as it expresses observations, directly

or indirectly received; or, in the case of automata, the information transmitted by the automaton, if "understood" by the human recipient, would amount to a piece of indirect (hearsay) observation.¹⁸ But as we have tried to see earlier, the expression of observations cannot consistently be regarded (sc., within the same level of discourse) as a phenomenon sub specie naturae. Hence, it cannot, within the same framework, be regarded as causally determined within the "natural" order.

Now, the raison-d'être of Malcolm's criterion may also be seen to be based upon (inter alia) the presumption that "intelligent" utterances -- i.e., primarily, utterances made by human beings, -- cannot be explained as emanating from natural causes. For we have already said that within the same frame of reference, a kinesis cannot be regarded as both the expression of an observation (direct or indirect) and as emanating from "natural" causes. If, in addition, whether a given kinesis may be interpreted as the-expression-of-an-observation (or, simply, as an expression,) -- is taken as having an unconditional answer, then we should also have to say, to be consistent, that such a kinesis cannot be explained sub specie naturae. Now, Malcolm's position is that utterances issuing from individuals with no identifiably anthropomorphic features are unconditionally to be regarded as non-intelligent. Hence it would follow that such utterances are not to be regarded as in-principle-indeterminable (sc.,

nomologically-indeterminable). For to regard a kinesis as being nomologically indeterminable is in effect to renounce the causal-deterministic, --i.e. the sub specie naturae-- frame of reference: and this in turn, at least upon the level on which we are at present discussing the issue, would be to assume, ipso facto, the freedom/intelligence frame of reference.

Whether or not Malcolm took these points explicitly into account is for the purpose irrelevant: what is relevant, however, is that, given the agency-observation distinction, the said position would follow ineluctably upon the presumption of an unconditional concept of intelligence or understanding. It might also be observed in this regard that, once one has made up one's mind to preclude a certain class of kineses from the realm of "intelligent" phenomena, as Malcolm has done with respect to non-anthropomorphisable utterances, no empirical considerations could weigh as evidence against this "Exclusion Principle"; this may of course be seen from the very fact that Malcolm's injunction is normative; it is a fiat (in the most negative sense possible of 'fiat'). But more salient is the fact that, even if no causal laws are known to account for such in-principle non-intelligent utterances, the implicit attitude of those in question would be that such causal laws may yet be found: they are tacitly willing to extend indefinitely the time it would take for these "utterances" to prove themselves "natural". Conversely, once one has made up one's mind that

a given utterance is intelligent, one has by that token renounced the attempt to account for it causal-deterministically. This may be seen to be consequent upon the agency-observation distinction --or more particularly, the distinction between causal determination and nomological determination.

How this is related to the criterion that intelligent utterances should issue only from entities with identifiably humanoid (physiognomical) features might perhaps be seen as follows:

It might be in order to preface this analysis with the reminder that the argument immediately to be described is in fact fallacious: but then, Malcolm's criterion is itself geared to a fallacy (see infra, passim). For, unless we explain the relation between the unconditional concept of intelligence and the "human-feature" criterion as we shall try to do in a moment, it would be hard to see how the criterion in question could ever progress beyond the status of a "subjective" expression of sympathy for humanoid entities. That is, how it could be taken as a universal directive as to how anyone at large should apply the concept in question, rather than simply as an expression of Malcolm's own lack of sympathy for entities which do not seem to him to be "anthropomorphisable".

The fallacious argument alluded to, then, is as follows:

In the first instance, "known-to-be-intelligent" utterances issue from humans: intelligent utterances par excellence are human

utterances (the 'human' here being used only to refer to physiognomy). In addition, these utterances are ex hypothesi not explicable in "natural" terms. Hence, by what would seem to be an extremely weak case of induction (in so far as it is based solely on the instance of intelligent utterances being found in conjunction with human physiognomy), it is concluded that only utterances issuing from a humanoid physiognomy would be in-principle-indeterminable-in-accordance-with-natural-causes. Hence, utterances (however intelligent they might initially sound) from non-humanoid sources would be potentially determinate qua interpretable sub specie naturae. That is to say, they would not admit of being regarded as genuinely intelligent.

As already mentioned, this argument is a fallacious one. Why this is so will be taken up in a subsequent section. But the flimsiness of the argument is suggested even at this stage by the weakness of the implicit induction involved. We might also note in passing the tacit assumption that "non-human" phenomena are "natural", as against "human phenomena", which adherents to Malcolm's principle would be willing to regard as in some sense "ex machina".

In general terms, Malcolm's criterion might be analysed as follows:

We should only be able to tell whether an apparent case of an "intelligent" utterance is a real case of such by

seeing whether it comes from genuine organs-of-communication. And whether a feature may be interpreted as an organ-of-communication would be a direct function of whether it looks like a human organ-of-communication.

We shall presently try to see that the attempt to gear the application of a second-order term (viz., 'understanding', in Malcolm's case) to the physical -- empirically verifiable-- characteristics of the judge, even though in Malcolm's case it is a fallacious one, throws some much-needed light on our main problem. Meanwhile, to look at the second objection -- viz. that judges (in the first instance, human judges) might differ as to what may be said to resemble human physiognomy.

3.3.2. The element of similarity: second-order terms might involve value-terms

It has briefly been pointed out that, in so far as Malcolm's criterion involves detecting a similarity between given phenomena and the human physiognomy, the application of (in Malcolm's case) the term 'understanding', -- or, for that matter, the application of any second-order term, -- falls, once again, at the mercy of the individual judge involved. Here, however, the way in which the application of the terms is geared to the individual judge is different from the way in which it had been geared to it in the case of autonomism. There, it would have been logically impossible for any two judges to concur on the issue: here, by contrast,

if every judge concurred with every other as to what might be said to be "similar" to the phenomena in question, then the application of the terms might yet prove consistent. But the consistency of their application now becomes as arbitrary as in the case of what are known as "value-terms".

3.3.3. The element of similarity: overlapping applications

Malcolm's criterion, then, seems to merit re-analysis. For one thing, the application of such terms as 'understanding' would remain potentially inconsistent so long as such concepts as 'similarity', 'bearing-a-resemblance-to-X', etc., remain "value-concepts".

The element of similarity brings yet another problem into focus, viz., that, in so far as more than one phenomenon are involved where human "information-receiving-and-transmitting" features are concerned, there would in principle be overlapping judgements as to what should be credited with observation-potential.

For supposing that judge A (let us assume for the sake of argument that he is human) qualifies non-human B (his pet poodle, say) as "intelligent" in so far as B satisfies A's criteria as to the resemblance to human organs-of-communication, with respect to "intelligence-indicating" features a, b, and c, out of what A takes to be a total possible set of four -- a, b, c, and d. We shall assume for the sake of this particular argument that all humans -- who all give

the mutual impression of possessing all the possible organs-of-communication, -- concur as to what may be said to resemble any given feature and what may not. Then even so, discrepancies may be seen to emerge on the introduction of "partial similarities" -- i.e., on the admission of the possibility of granting X intelligence so long as he manifests some, but not all of what, to any given judge, constitute the total possible set of communicative features. And this possibility is at least prima facie admissible on the vague Malcolmian criterion of similarity.

For, to recur to the man-and-dog example above, B would (according to A, and also, ex hypothesi, to A's fellow-humans) qualify as "intelligent". But now, in principle, ex-hypothesi-intelligent individual B might, pari passu, see himself as having the total possible set of communicative features, a, b, c, and e -- the e being absent in and undetectable by A. And B might in turn qualify C as being intelligent on the grounds of the latter's manifesting b, c, and e. Pari passu, C might proceed to qualify D as intelligent, on the grounds of the latter's manifesting b, c, d and f, -- etc., ad infinitum.

In so far as the features a, b, c, etc. are assumed to include not only "information-transmissive" features but information-receiving features as well, it may be seen that any given judge might not only fail to interpret certain features in

another individual as being communicative (whether "transmissively" or "receptively"), but he might fail to observe them even on the phenomenal level, in so far as he (sc., the judge) might lack information-receiving feature, n.

Now, it may be seen that it would not be logically advisable to use a single term, 'intelligence', 'understanding', or even 'observation-potential', to canvas all possible features that might be "observed" and "interpreted" by any "intelligence" whatever. (These words are in scare-quotes to indicate that they are provisional for that very reason.) For, in practice, they are geared solely to the human-agency frame of reference. It would be vacuous for a human judge to apply the term 'intelligence' to an hypothetical entity with no communicative-features in common with himself.

Even the term 'communication' itself would be ambiguous, for as a rule, it is used within human language to refer to something that either may or may not (unconditionally) be said to be involved in a given kinesis or set of kineses.

Yet, as we have tried to indicate both in connection with the distinction between first- and second-order terms, and later in connection with the extremely fluid element of similarity which is liable to haunt any attempt to establish criteria of "intelligence", "understanding", etc., it would be futile to evade the logical possibility of an infinite spectrum of criteria for "second-order" terms.

In the earlier connection, it had been suggested that an inconsistency would have been involved in trying to gear second-order terms, such as 'intelligence', to the same sort of ontological basis as empirical, or first-order terms. This much had already sufficed to indicate that the criteria for the application of second-order terms would not prove as solid -- if indeed any such criteria ever do surface -- as those for the application of first-order terms.

In connection with the factor of similarity, we tried to see how an overlapping spectrum of such criteria might in principle be conceived.

Hence, it would be logically necessary to formulate a generalised "theoretical" concept regarding the way in which second-order terms come to be applied -- a concept that would take into account the way in which such terms are relative to the judge in question. Hence the notion of Λ -language.

3.4. The status of Λ -language

The notion of Λ -language, then, is the generalised notion of what, on a lower logical order, --i.e., within one particular frame of reference (which happens to be the "human" Λ -language) would be termed 'communication-limits', -- or, perhaps better, 'communication-matrix': for ' Λ -language' "connotes", as it were, not only the limits but the extent of the range in question. But the term ' Λ -language' is not substitutable by the term 'communication-matrix/limits',

because 'communication' is a second-order term within one particular frame of reference (viz., a "human" frame of reference), whereas ' Λ -language' is the generalised term corresponding to this, and hence higher up in the logical hierarchy.

Pari passu, it must be said that we should be chary about using 'communication-matrix/limits' (in that sense of it with which we sought to explain the notion of Λ -language) in the same unqualified way as such correlative terms as 'intelligence', 'voluntary', etc. tend normally to be used.

For, as we have seen, the capacity to communicate or observe cannot consistently be put on an empirical, "purely factual", basis. Yet the way in which second-order terms tend as a rule to be used has by now acquired a quasi-, or pseudo-empirical basis, -- in much the same way as so-called "value-terms" tend to have, sometimes, been put on a quasi-empirical basis, or, for that matter, as 'motion' and 'rest' in celestial mechanics had until fairly recently had a quasi- (or pseudo-) absolute basis. This quasi-empiricality, as we have tried to see, has been at the source of most if not all of the problems discussed so far.

To take ' Λ -language' as simply another second-order term, or as being on a par with these, then, would be to be oblivious of the fact that the application of such terms varies according to the judge.

The term 'A-language', on the other hand, is, admittedly, a "mere theoretical construct": but it is one which has been logically necessitated by the problems discussed earlier. For this reason, it would be irrelevant to ask whether there are in fact A-languages other than that we are familiar with. One thing for saying this would be that it is ex hypothesi impossible to test empirically whether there are A-languages other than one's own.

Nor would this be to lay the notion open to the same sort of objection as what the critics of Kant's metaphysics (or, if preferred, the critics of the Critical philosophy) never tire of levelling against the "noumenon". For whereas Kant had committed the self-defeating gesture of declaring the noumenon ever unknowable by the human intellect, the in-principle overlapping structure of the A-language spectrum leaves open the "dialectical" (not in the Kantian, but more in the Hegelian, sense this time) possibility of any given judge's A-language expanding, or altering, in time. Let us just try to render this a bit more plausible by recurring to the example given on pp. 89 ff. earlier. It is in principle admissible that A might have his set of "information-receiving" features expanded so as to take into account B's "communication-feature", e, of which he (sc., A) had at first been unaware. Here, an empirical example is accessible -- viz., in the case of the development of sonar devices for detecting hitherto

unsuspected "communication-potential" in dolphins.

This much, however, has just been to stop the notion of the issue from sounding either self-defeating or unwarrantedly ad hoc. Nonetheless, the fact remains that, even if it has been necessary to try to show illustratively that the postulation of a spectrum of Λ -languages is not inconsistent, it would not be justified to ask to be shown, empirically, that at any given time there are, as a matter of fact, Λ -languages other than the judge/speaker's own.

For the *raison-d'être* of our postulation of this notion is logical, not empirical. And that the notion is logically justified for may be seen a priori from the problems examined earlier on in our discussion -- from the problem of assuming an absolute concept of determinacy to the problem of taking "communication-potential"-involving terms to be on a par with empirical terms.

Even qua logical construct, the notion introduced here might still induce certain philosophical qualms, just as the notions of the various sorts of transfinite numbers have, and even do, induce such qualms. But one would be hard put to argue that such notions as these are bankrupt notions in so far as they do not lend themselves very easily to empirical analysis. Thus to object to the notion of " Λ -language" on the grounds that, e.g., we could not possibly make sense of the statement that amoebae may be said to be intelligent within

What our Λ -language would be parallel to objecting to, e.g. the notion of complex numbers on the grounds that we could never hope to be intelligible the statement that I could pick up Λ -shtrays from the table.

That the notion of Λ -language is as yet "uncongenial", as it were, constitutes no logical objection as such. On the contrary, the indications are that it would be profitless to try to evade "relativising" such notions as freedom and determinism on the one hand and notions as absolute intelligence on the other. For to disregard the judge's frame of reference in such contexts would signify a confusion of the logical issues involved. Some such notion as that of Λ -language, it seems to be called for in the interest of consistency. In spite of the fact that both the nomenclature and the description in the present discussion are extremely tentative. We had observed earlier on that a relative concept of causality, geared to the judge's cognitive apparatus, had been suggested by Kant's analysis of causality. It would not be too irrelevant to add to this that an even more parallel to the notion at issue is to be found in Kant's concept of an attribute of God/Nature:¹⁹

For relative to any particular individual, modes of the finite number of the infinity of God/Nature's attributes are perceivable, for all individuals are finite modes of God/Nature. The attributes whose modes are perceived by

any individual A might overlap with the set of attributes whose modes are perceived by B, but there is in principle an infinite spectrum of perceptible modos Dei-sive-Naturae attributorum.

We might also add on this note that both in the case of Wick's Truth's Debt to Freedom and in that of the Wittgensteinian conceit of the language-game, we have apt, if unintentional, expressions of the arbitrariness involved in so-called language and "intelligent phenomena" in general: Wick in his description of "canonical" concepts, Wittgenstein in his implicitly viewing the participants in any particular language-game as being enclosed in some arbitrary game-circle, vis-a-vis others being enclosed in other (possibly overlapping) game-circles.

For we have briefly tried to see that the canons assumed by any one party need not, in so far as they are mere canons, be assumed by the next party.

And, more significantly, which canons we are in the position to assume in the first place would be geared to our Λ -language. That is, in very loose terms, they would be geared to the limits of our "observation". And what one takes to be observable/determinable sub specie naturae would be ruled out, ipso facto, from the domain of "freedom", "intelligence", and the like. Conversely, what the judge has pre-opted to exclude from the empirical-deterministic realm would be free, and to admit of being viewed as "actively" capable of transmitting information, instead of being "passively" determined

by information already acquired.²⁰*

* To the extent that the quantum physicist is regarded as being in-principle incapable of determining the position-cum-momentum of the particle, it is "because" he would, in the process, be involved in observing his own act of observation, -- in so far as his "physical presence", inevitable so long as he observes, interacts with the particle (if one can speak of "the" particle). To go any further than this would, of course, be irrelevant. But this much might not be too out of place to show that the in-principle-indeterminability-equals-freedom view is not endangered by the Indeterminacy Principle.²¹

CONCLUSION

We have thus tried to see to what extent the classic posers of determinism and the "problem of mind" may be seen as twin-aspects of the same problem, viz. that of the complementarity between the deterministic mode of reference on the one hand and the "intelligent-agency" mode of reference on the other. It might strike one as odd to speak of "the deterministic mode of reference": so it might be relevant to observe at this juncture that the fact that determinism constitutes something more, or something less, than an empirical tenet may be seen a priori from the following points, viz.: to say that all events at large are determinable is clearly to make a meta-empirical statement; in addition, empirical tenets should in principle not be permeable to inconsistencies, whereas, as we have tried to see, determinism in the Laplacean sense does involve an inconsistency.

Thus it has been suggested that voluntarism and determinism are related not so much as mutually contradictory tenets -- for in a strict sense they do not constitute tenets at all, --as in a way such as to be regarded as representative of alternative modes, or levels, of reference.

At the same time, we have tried to examine how the problems discussed in connection with the issues of determinism

and the problem of mind have necessitated the "theoretical construction" of a generalised notion of what, within our own level of reference, we term 'communication'.

The two interlocking aspects of this enquiry, then, concerned:

- 1) the logical disparity between first- and second-order terms, i.e. "mentally"-referring terms on the one hand and "ordinary empirical terms" on the other.

The distinction between mentally-referring predicates and non-mental predicates may not be a novel one to draw, but we have tried to stress that the difference between the two sorts of terms is primarily a difference in logical hierarchy -- hence the nomenclature, 'first-' and 'second-order'.

In the same context, we tried to show that the consequences of this distinction were not compatible with what we have called "selective behaviourism", which, while conceding the difference in logical type between mental terms and non-mental ones, is committed to the position that some, but not all, events are expressible in mental terms.

- b) Parallel to the above distinction was the aspect focussed on the problem of determinism:

We began by trying to indicate that the determinacy of an event must in the interest of consistency be regarded as being in some way a function of the frame of reference of the judge/speaker. This was illustrated by the paradox of self-prediction.

But while it was apparent that the tenet of the possibility of self-prediction led to certain logical difficulties, it was at least prima facie possible to regard others' actions under the natural aspect. We then went on to try to see that autonomism pure and simple --i.e., the position that only one's own acts are to be regarded as "free", -- is likewise untenable. For then we should not be able to explain what might be termed the paradox of communication -- viz., that, if A could predict the behaviour of his colingual, B, then A could (ex hypothesi) inform B of B's future behaviour. And this would be tantamount to B's being in access to self-prediction.

Hence we concluded that the region of events to be regarded as in-principle-indeterminable would have to include the voluntary kineses of the judge's colinguals (or Λ -colinguals)-- i.e. any kinesis interpreted as being voluntary would ipso facto be in-principle-indeterminable by the same judge.

That the determinacy of a kinesis is to be regarded as relative to the judge's frame of reference, however, is to say in effect that there are, in principle, at least two possible frames of reference in this regard. And to grant this would be to grant that there are, in principle, at least two possible linguistico-epistemological spheres -- i.e., two possible Λ -languages.

Hence, in turn, the logical necessity to postulate some such notion as that which we have termed here ' Λ -language'.

Hence the "theoretical construction" of the notion in question is, inter alia, an attempt to account simultaneously for the apparent consistency with which second-order terms tend to be used in practice (colinguals would concur on the issue as to what should be regarded under the "free-cum-intelligent" aspect), and for the fallacies which are consequent upon taking such terms as 'intelligence' to "have a basis in nature" in the same way as do first-order terms. Thus second-order terms were finally said to have a range of application relative to the judge's Λ -language, instead of being relative merely to the judge's individual identity, -- a possibility initially discussed but subsequently dismissed, -- or of being such that they could have a validity without any specification as to the judge's frame of reference.

NOTES

CHAPTER I

1. Cf. p. 34 ff., infra.
2. D.F. Pears, Predicting and Deciding, in Studies in the Philosophy of Thought and Action, ed. P.F. Strawson, Oxford, 1968. pp. 97 ff.
3. Ibid. Cf. also p. 9 infra, however.
4. Cf. p. 9 infra.
5. Cf. loc. cit., p. 100.
6. Ibid.
7. Cf. Brian O'Shaughnessy, Observation and the Will, in Philosophy of Mind, ed. S. Hampshire, New York, 1966. pp. 169 ff.
8. Ibid.
9. Page A, Shalom's written comments on first draft of present thesis.
10. But see section under Others' Actions, Chapter II, infra.
11. It may be seen that X is ambiguous here: it would have to stand for both the article most in accordance with one's own propensity, and for that most in accordance with the friend's propensity. The convergence of these propensities is assumed by Pears without any question. Hence, the "Fallacy of Many Questions".
12. Again, this is not to impute the deterministic position to Pears. See p. 7 supra.

13. Cf. p. 99, loc. cit.

14. Cf. pp. 46 ff., infra.

14b. For this qualification, see Chapter II, on Others' Actions, pp. 61 ff.

15. Ibid.

15b. But see Chapter III, passim.

15c. Cf. also pp. 47 ff., infra.

16. Cf. Chapter III, pp. 65 ff., infra.

17. Ibid.

18. In spite of its glaring fallacy, this argument does have salient features: cf., would the possibility that the behaviour of neurons could be "scientifically predicted" in accordance with differential equations, say, affect the argument against self-prediction? We should still say it would not, for there is no translation/transformation possible between the statistico-mechanical description and the "mental" one of the "same" kineses.

19. But even here, it is problematic whether 'particle' is to be understood on the sub-atomic level, or on the molecular, i.e. statistico-mechanical, one, -- the latter alone being relevant to the determinacy of the brain's behaviour .

See E. Schrödinger, Mind and Matter, Cambridge 1967.

19b. For an exemplification of "soft-determinism", see M. Bunge, Causality, etc., Cambridge, Massachusetts, 1959.

CHAPTER II

1. 1. Cf. the discussion of self-prediction, pp. 7 ff., supra.

1b. In so far as we may speak of 'detection'. But cf. Chapter III, infra, passim.

1c. Cf. Strawson's "P-" and "M-" terms. Cf. also discussion of Wick's Truth's Debt to Freedom, pp. 67 ff., infra. But we use the terms, 'first-order' and 'second-order', to stress their difference in the logical hierarchy.

2. Ibid.

3. Cf. Chapter II, pp. 73 ff., and Chapter III, passim, however, as to why others' actions do not admit of being consistently regarded as predictable.

4. Loc. cit., p. 97.

5. In any event, these terms will have to be demoted to a status very close to that of egocentric particulars. Cf. Chapter III, infra.

6. Cf. Spinoza's infinity of God/Nature's attributes, the modes of only two of which (viz., modos extensionis and modos cogitandi) are apprehended by humans. It might be noted that, for reasons beyond the present scope, Spinoza's view that humans are, after all, absolutely more "animati" than other individuals is, within his own logical system, unjustified.

7. But here, there is the problem parallel to that regarding the range of predication of the term 'freedom', as discussed on pp. 25 ff., supra.

8a. Cf. Chapter III, passim.

8b. On further analysis, the sense of 'determine' qua 'decide', -- the sense we have so far not accounted for,

seems derivable from the causal sense of the term; one determines (= decides) to do something when one looks forward to causally-determining the train of events in the region of the prospective "act", hence, to causally-determine, or fix or realise the kinesis in question.

9. It might be noted that there is, however, no question as to the identity of "intelligent agents" over and above that of entities (in particular, macroscopic physical entities) in general. But there is no room here to give an extended analysis of this issue.

10. 'Observe' is in scare-quotes since it will be seen that there is a disparity in usage between "observing" something expressible in first-order terms and "observing" an observation.

11. Cf. Section 2.4. supra.

12. Brian O'Shaughnessy, loc. cit., pp. 169 ff.

13. Op. cit., p. 172.

13b. Ibid.

14. Loc. cit.

14b. Loc. cit. Also see P. Geach, Some Problems About Time, in Studies in the Philosophy of Thought and Action, ed. P.F. Strawson, Oxford, 1964. Pp. 175 ff.

15. Ibid.

16. O'Shaughnessy does take into account the fact that the occurrence of "purposive" artifacts, e.g. chairs, in the universe cannot be accounted for sub specie naturae. But this also seems to suggest that whether or not such "occurrences" can be deemed to alter the natural order cannot consistently be expressed, in so far as this would involve formulating the

relation between "purposive" factors and natural ones.

17. Cf. also P. Geach, *op. cit.*

17b. W. Wick, Truth's Debt to Freedom, in MIND, Vol LXXIII, 1964. pp. 527 ff.

18. Cf. Section 2.7., pp. 61 ff., infra, and Ch. III, passim.

CHAPTER III

1. W. Wick, *op. cit.*

2. B. O'Shaughnessy, *op. cit.* Also see discussion of this in Chapter II, supra.

3. For O'Shaughnessy does speak of "action" as if it had a consistent application, and there are indications that he takes all actions at large to be "world-altering".

4. We say the two theses are antithetical, in so far as Wick's position seems to treat the apparent anomaly of "intelligent" action as unconditional, whereas O'Shaughnessy seems at least dimly aware that the anomaly is geared to the asymmetry in focus between the agent of the so-called "intelligent" act on the one hand and "external" observers on the other. Cf. also discussion of O'Shaughnessy's paper, supra.

5. *Op. cit.*, p. 536.

6. *Ibid.*

7. *Ibid.*, p. 527 ff.

7b. *Ibid.*, p. 535.

8. Take, e.g.,

a) Yesterday, over lunch, A opined a most incredible view. ("Objective" aspect.)

b) A seriously said, 'I believe there's a unicorn in my garden.' ("Object" aspect.)

Both sentences "talk about" the same event -- viz., A's opining as he did, but (a) would, at least prima facie be in the "object-language", whilst (b) would be, more obviously, in the meta-language. On more analysis, (a) would, in fact, be said to be in the metalanguage as well, but still the disparity between the two cases is apparent.

9. Ibid., p. 528.

10. Ibid., p. 536.

11. Ibid., p. 530.

12. Ibid., p. 530.

13. Cf. footnote 9 to Chapter II, supra.

14. For a voluntary kinesis is one that "squares with" one's expectations: and the concept of an expectation of an observable state of affairs would not be intelligible without the concept of "having-an-empirical-concept".

15. Cf. Spinoza, Ethica, Ps. II, Prop. XIII, scholium. Note too that the term 'Deus' expresses sub attributo cogitationis what 'Natura' expresses sub attributo extensionis. Thus in principle, the appellation could be expanded into 'Deus sive natura sive...sive...' ad infinitum.

16. N. Malcolm, in Philosophy of Mind, ed. V.C. Chappell, New Jersey, 1966.

17. Cf. B.A. Farrell, Experience, in Philosophy of Mind, ed. V.C. Chappell, loc. cit., pp. 23 ff. But here, 'mind' is in danger of being equated with the biological notion of "life".

18. The distinction between information, corresponding to the intelligence-aspect, and entropy, corresponding to the statistical-mechanical/deterministic aspect might be relevant here.

18b. Cf. footnote to Chapter II, 1c.

19. Cf. Spinoza, loc. cit.

20. Cf. especially, M. Polanyi, Personal Knowledge, London, 1958, passim.

21. But it might just be endangered by the position that determinacy is an insignificant notion except when interpreted as statistico-mechanical probability. There would be no room to take this into account here, however.

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