



**Prof. Hallet's Aeternitas (I.)**

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## II.—PROF. HALLETT'S *ÆTERNITAS* (I).<sup>1</sup>

BY C. D. BROAD.

FOR a European of the present day, few systems of philosophy are so hard to understand as Spinoza's. The difficulty does not arise, as with Hegel, from a forbidding technical terminology and an unholy passion for converting platitudes into paradoxes by means of puns. Spinoza's language is simple and straightforward, and he had the inestimable advantage of writing in Latin, a medium in which it is not easy to make muddle and twaddle look like revelation. It is perfectly plain that Spinoza is an original thinker of the first rank ; that he had his own intuition of the world as a whole ; and that his reasoning is not just "logic-chopping" but an attempt to expound this world-view as a coherent intellectual system. Those details which one can understand, such as his theory of the relations of body and soul, his doctrine of belief, and his analysis of the emotions, are so profoundly original and suggestive that one feels sure that it would be worth while to make an effort to grasp his system as a whole. But, speaking for myself, I am constantly baffled by terms like "essence", "eternity", "attribute", etc., by the notion of the infinite modes "following from" the attributes, and so on. That they meant something important and distinguishable for Spinoza is obvious ; but, even when he gives formal definitions of them, I find it difficult to identify any of them confidently with anything that I can recognise in my own experience.

Now Prof. Hallett has spent his philosophical life meditating on Spinoza's philosophy ; he is one of Spinoza's very few living disciples ; and he has honoured his hero in a way which must be almost unique, for he has both painted the portrait and expounded the doctrines of his master. He has deliberately dealt with the most difficult and characteristic parts of Spinoza's system, such as the eternity of the human mind and the infinitely many

<sup>1</sup> *Æternitas*: a Spinozistic Study. By H. F. Hallett. Oxford, at the Clarendon Press. Pp. xix, 344.

attributes ; and he has not confined himself to mere exposition. Recognising that there are serious gaps in Spinoza's own account of his system, and that Spinoza's thought was still developing rapidly in certain directions at the time of his death, Prof. Hallett has tried to fill these gaps in the way in which he thinks that Spinoza would have done if he had lived. His book is therefore of importance, not only as an interpretation of Spinoza's thought by one who has steeped himself in it for many years, but also as a partly independent contribution to the metaphysics of time and eternity. Unfortunately, Prof. Hallett's commentary is almost as difficult as Spinoza's text, and, although I have given much time to the book and have certainly derived many suggestions from it, I cannot pretend to think that I fully understand most of the doctrines which it contains.

About such a work as this three distinct questions may fairly be asked : (i) "What is Prof. Hallett's interpretation of Spinoza's theory ?" (ii) "Is there any reason to think that Spinoza meant this, or something rather like it ?" And (iii) "Whether or not this is what Spinoza meant, is there any reason to believe that this, or something like it, is true ?" Very few philosophers could venture without impertinence to controvert Prof. Hallett's views about Spinoza's meaning, and I am certainly not one of them ; so I shall omit the second of these questions entirely. I shall devote myself mainly to the first question ; and on this I will make the following preliminary remark. So far as I am concerned, Prof. Hallett's statements fall into three groups. The first contains those which I think I understand. The second contains those which I think I understand in outline but certainly do not understand in detail. Here the difficulties are due either to defects in Prof. Hallett's exposition, or to dullness on my part, and they could probably be removed by an hour's talk with Prof. Hallett. The third group contains statements which convey absolutely nothing to me. All statements which involve the term "creation", or the term "activity" as applied to timeless existents, fall into this group. My difficulties here are due either to my lacking some experience which Spinoza and Prof. Hallett have enjoyed, or to my complete inability to identify the experience which would give meaning to these terms even if I have had it. Spinoza, *e.g.*, says : *Sentimus, experimurque, nos æternos esse*. Prof. Hallett agrees with him, and says, very justly, that, if this were not so, we could have no positive idea of eternity. But I must confess that I am not aware of having any experience which could be appropriately expressed by this sentence or by anything like it. Either Spinoza had and noticed some experience

which I have never had or never noticed, or he expressed some experience which I have had and noticed, in such odd and inappropriate terms that I cannot identify his reference.

I will now expound Prof. Hallett's book to the best of my ability. In so doing, I shall not follow his order, in which the discussion of Duration and Eternity comes first. I shall begin with what comes towards the middle of his book, *viz.*, his general account of what he understands to be Spinoza's view of *Natura Naturata*.

(1) NATURA NATURATA.—If Prof. Hallett's interpretation be accepted, Spinoza's view of the structure of the universe, in its aspect of *Natura Naturata*, is much more like the views of Leibniz and of McTaggart than most of us would have suspected.

We may begin by enumerating the differences between Spinoza and Leibniz, which Prof. Hallett mentions in the preface to Part II. of his book. They are these. (i) Spinoza accepted the reality of Extension, whilst Leibniz thought that we misperceive groups of unextended particulars as extended objects. (ii) Leibniz's monads, even if they were spatial, would be punctiform. They would thus differ in *kind* from the individuals of which they are parts, and from the created world as an individual whole. Spinoza's *corpora simplicissima animata* are minimal extensions marked out by actual motions. They are of the same kind as the higher and more complex individuals of which they are elements, and as the Whole. (iii) For Spinoza there can be no unrealised possibilities, whilst for Leibniz the actual world is one out of innumerable equally possible alternatives.

The essential point of agreement is that both of them accepted and developed the "macrocosm-microcosm" theory. The form which this theory takes in Spinoza's philosophy is, according to Prof. Hallett, the following. *Natura Naturata* is a unique and perfectly organised individual Whole, consisting of infinitely many Primary Parts, each of which reflects the Whole to a different degree of adequacy, and none of which can, from its very nature as a part, reflect the Whole with complete adequacy. This difference in adequacy of reflection between each different Primary Part is, according to Prof. Hallett, necessary in order to differentiate the parts; and McTaggart is criticised for not seeing this. It is also necessary that the number of Primary Parts should be infinite in order that there shall be no unrealised possibilities. Let us call the Primary Parts  $P_1, P_2 \dots P_n \dots$

It is not altogether clear to me whether these Primary Parts are supposed to be a "set of parts" of *Natura Naturata*, in

McTaggart's sense, or whether they are supposed to overlap each other to some extent. I am inclined to suppose that Prof. Hallett means to take the latter alternative. For he tells us in Chapter VI. that, whilst individuals of the same degree of wholeness cannot be related as whole and part, they can overlap in so far as their individuality is incomplete. Now I understand that degree of individuality varies with the degree of adequacy with which a part reflects the Whole. As *all* the Primary Parts reflect the Whole with *some* degree of inadequacy I conclude that Prof. Hallett must hold that each Primary Part overlaps some other Primary Part to some extent. But I may be wrong.

*Natura Naturata* as a whole is not an *organic* unity, since it has no environment. But it would be still more erroneous to think of it as something less closely unified than an organism, *e.g.*, as a merely mechanical unity. We may call it a "super-organic unity"; from the nature of the case we can find no complete analogy to it in any of its parts. Each of the Primary Parts may properly be regarded as a kind of idealised multiple organism. The series of Primary Parts has no highest or lowest *term*, but it has an upper *limit*, if I understand Prof. Hallett aright. The upper limit will be *Natura Naturata* as a whole. This, of course, cannot be a term in the series of its own Primary Parts; but the members of this series can approximate indefinitely to it in respect of their degree of individuality and organisation and inclusiveness. The lowest terms of the series are the *corpora simplicissima animata*; but these, as we shall see, approximate only to the ideal limit of a *corpus simplex animatum*, which is a fiction incapable of actual existence and not a real lower limit. A human individual, *i.e.*, an ensouled human body or an embodied human soul, is, if I am not mistaken, one of the Primary Parts of *Natura Naturata*, occupying an intermediate position in the series. It is because my mind has my body for its immediate object, and because my body is, in its degree, a reflexion of *Natura Naturata Extensa* as a whole, that I can have an adequate, though very imperfect, idea of the latter. "Our knowledge of God" (as extended) "is our knowledge of our bodies, broadened out and delimited by the unity of the body with *Natura Naturata* as a whole but not with the more ineffable ranges of individuality." Similar remarks would apply, *mutatis mutandis*, to our knowledge of *Natura Naturata Cogitans*, it being remembered that Spinoza holds that the human mind has itself, as well as its body, for its immediate object. Our bodies are related to the extended individuals which are higher in the series of Primary Parts in somewhat the same way as the living cells in my body are related

to my body as an individual organism. And there must be some parallel arrangement on the mental side.

So far, Spinoza's theory, as interpreted by Prof. Hallett, is fairly clear in outline. But now we come to more difficult details of it. We are told that all the Primary Parts of *Natura Naturata* are "immanent in" a given primary part  $P_n$  in so far as  $P_n$  reflects them adequately; they "act transeuntly on"  $P_n$  in so far as  $P_n$  fails to reflect them adequately. In  $P_n$  Prof. Hallett distinguishes a part  $P_n(p_m)$  as "that part of  $P_n$  which is due to the immanency of  $P_m$  in  $P_n$ "; and he distinguishes another part, which I will denote by  $P_n(\pi_m)$ : This latter is "that part of  $P_n$  which is due to the transiency of  $P_m$  on  $P_n$ ".

We thus get, within any Primary Part  $P_n$ , two series of First Grade Secondary Parts (to borrow a useful phrase from McTaggart), viz.,

$$\begin{array}{l} P_n(p_1), P_n(p_2), \dots P_n(p_m), \dots P_n(p_n), \dots \\ P_n(\pi_1), P_n(\pi_2), \dots P_n(\pi_m), \dots P_n(\pi_n), \dots \end{array}$$

The first of these series is said to represent the "activity" of  $P_n$ , and the second to represent "the passivity of  $P_n$ , or its inadequate reflexion of the whole". There will, of course, be a similar pair of series of First Grade Secondary Parts within each of the Primary Parts. The two series may be put together in the form

$$P_n(p_1, \pi_1), P_n(p_2, \pi_2), \dots P_n(p_m, \pi_m), \dots P_n(p_n, \pi_n), \dots$$

It is asserted that such a series as this completely makes up the Primary Part  $P_n$ . It is not clear to me whether Prof. Hallett means such a series of First Grade Secondary Parts of a given Primary Part to be a "set of parts" of it in McTaggart's sense, or whether he would allow terms in the series to overlap each other to some extent. My impression is that overlapping would *not* be allowed, but I may well be mistaken. Each Primary Part "reproduces" the Whole, in its degree, by containing one and only one First Grade Secondary Part corresponding to each Primary Part.

I do not at all clearly understand what is meant by  $P_n$  containing one part  $P_n(p_m)$  which is an adequate response to  $P_m$ , and another part  $P_n(\pi_m)$  which is an inadequate response to  $P_m$ . We are given no help by illustrations or analogies. Does Prof. Hallett mean that  $P_m$  has a set of two parts,  $p_m$  and a residue  $\pi_m$ , such that  $P_n$  responds adequately to the former and inadequately to the latter? If so, it would be better to symbolise them by  $p_m^n$  and  $\pi_m^n$  respectively. For, presumably  $P_m$  will have a

*different* set of two parts, *viz.*,  $p^r_m$  and  $\pi^r_m$ , such that the *different* primary part  $P_r$  responds adequately to the former and inadequately to the latter. Again, I do not understand what is meant by saying that  $P_m$  is "immanent in"  $P_n$  in so far as the latter responds adequately to the former, and that  $P_m$  "acts transeuntly upon"  $P_n$  in proportion as the latter responds inadequately to the former. Surely, in any ordinary sense of these technical terms,  $P_m$  acts transeuntly on  $P_n$  if it elicits *any* response from  $P_n$ , whether that response be adequate or inadequate; and the more responsive  $P_n$  is to  $P_m$  the more transeunt action there is between the two. Lastly, I am not at all sure that I understand what precisely is meant by the distinction between "adequate" and "inadequate" response. Would a response be "adequate" if, for every possible determinate variation in the stimulus, there were a correlated variation in the response; and would it be "inadequate" if, for certain ranges of variation in the stimulus, the response would remain unaltered?

We must now face further complications. Each First Grade Secondary Part, such as  $P_n(p_m, \pi_m)$ , of a given Primary Part, such as  $P_n$ , consists of a series of Second-Grade Secondary Parts. Each of these reflects one and only one of the First-Grade Secondary Parts of  $P_n$ , and each of them consists of an adequate and an inadequate reflexion of the First Grade Secondary Part which it reflects. Prof. Hallett's notation becomes terribly cumbersome at this stage, and I would suggest the following amendment. Denote  $P_n(p_m, \pi_m)$  by  $P_{nm}$ , and denote  $P_n(p_r, \pi_r)$  by  $P_{nr}$ . Then the part of  $P_n(p_m, \pi_m)$  which is a reflexion of  $P_n(p_r, \pi_r)$  can be symbolised by  $P_{nm}(p_{nr}, \pi_{nr})$ . Here  $p_{nr}$  is the part of  $P_n(p_r, \pi_r)$  which is adequately reflected in  $P_n(p_m, \pi_m)$ ; and  $\pi_{nr}$  is the part of  $P_n(p_r, \pi_r)$  which is inadequately reflected in  $P_n(p_m, \pi_m)$ . If we denote  $P_{nm}(p_{nr}, \pi_{nr})$  by the shorter symbol  $P_{nm, nr}$ , we can express Prof. Hallett's theory of Second Grade Secondary Parts as follows: "Any First Grade Secondary Part  $P_{nm}$  of any Primary Part  $P_n$  consists of the following series of Second Grade Secondary Parts, *viz.*,

$$P_{nm, n1}, P_{nm, n2}, \dots P_{nm, nm}, \dots P_{nm, nn}, \dots$$

where these symbols have the meanings explained above".

It will be seen that each First Grade Secondary Part of any Primary Part "reproduces" that Primary Part, in its degree, by containing one and only one Second Grade Secondary Part corresponding to each First Grade Secondary Part of that Primary Part. And, since each Primary Part "reproduces" the Whole, in its degree, as already explained, each First Grade Secondary

Part, in "reproducing" a certain Primary Part, will be "reproducing" the Whole at the first remove from directness.

Now this arrangement is supposed to go on in an endless descending hierarchy. Each Second Grade Secondary Part of a First Grade Secondary Part will be composed of a series of Third Grade Secondary Parts, corresponding one to one to the Second Grade Secondary Parts of that First Grade Secondary Part. *E.g.*, the part  $P_{nm, nr}$ , will be composed of a series of parts of which the term  $P_{nm, nr, ns}$  is a typical member, where the latter symbol is an abbreviation for the more explicit symbol  $P_{nm, nr} (p_{nm, ns}, \pi_{nm, ns})$ , and where  $s$  takes in turn all the values  $1, 2, \dots, r, \dots, m, \dots, n, \dots$ . It follows that each Third Grade Secondary Part will "reproduce" the Whole at the second remove from directness, and so on without end.

Now in each grade of the secondary parts of a given Primary Part  $P_n$  there will be one outstanding term. In the first grade it will be  $P_{nn}$ . In the second grade it will be  $P_{nn, nn}$ . In the third grade it will be  $P_{nn, nn, nn}$ . And so on. The first is that part of  $P_n$  which is the reflexion (partly adequate, and partly inadequate) of  $P_n$  in itself. The second is that part of  $P_n$ 's reflexion of itself which is the reflexion of this reflexion of  $P_n$  in this reflexion of  $P_n$ . And so on. These phrases convey no idea whatever to me; but they mean something for Prof. Hallett, and they may perhaps strike some chord in some reader. If  $P_n$  be, as we are told, a kind of idealised multiple organism, perhaps  $P_{nn}$ , on the bodily side, might be a kind of idealised brain and nervous system. But this may be a complete misinterpretation. And I do not see how  $P_{nn, nn}$  and the rest could be interpreted on these lines.

However this may be, Prof. Hallett thinks that there is a fundamental distinction between what we might call "homogeneous" secondary parts, such as we have just been considering, and "heterogeneous" ones, such as  $P_{nm}, P_{nm, nr}$ , etc. He says that  $P_{nn}$  "reflects, but does not wholly reproduce,  $P_n$  as it is in the integrity of *Natura Naturata*". It is *inadequate*, but "it is not *confused* by transiency". The same is true of  $P_{nn, nn}$ . It is still more inadequate, since it is only a reflexion of a reflexion of  $P_n$ . But it is not confused. Now  $P_{nm}$  will be a *confused*, as well as an inadequate, reflexion of  $P_m$ . For, since it is a reflexion of  $P_m$  in  $P_n$ , it will have a mixed nature depending jointly on the natures of  $P_m$  and of  $P_n$ . (We must of course clearly understand that "confusion" here does not mean confusion in the cognitive sense. For whatever Prof. Hallett has in mind will characterise *Natura Naturata Extensa* just as much as *Natura Naturata Cogitans*. Probably some such term as "impure" or "mixed" would be



safer in this connection.) It seems to me rather unfortunate that Prof. Hallett should again bring in the word "transiency" here, for there certainly seems to be a verbal inconsistency in his statements.  $P_{nn}$  does, according to him, contain a part  $P_n(\pi_n)$  which is  $P_n$ 's inadequate reflexion of itself. And such inadequacy is ascribed by Prof. Hallett on p. 210 to "transiency". Yet, on p. 213, we are told that  $P_{nn}$  is not confused by transiency. Does he mean that transiency is present even here, but that it does not here cause confusion? Or does he mean that transiency is not present here? If the latter be his meaning, he must either be using "transiency" in a different sense from that in which he used it on p. 210, or there would appear to be an inconsistency.

Prof. Hallett says that the heterogeneous Secondary Parts are "within *Natura Naturata*, but are not parts of *Natura Naturata* as a whole". They are what he calls "sections", in contrast with genuine "parts". He says that "in the Whole they are resolved into their determinants". I take it that the determinants of  $P_{nm}$  would be the two Primary Parts  $P_n$  and  $P_m$ ; that the determinants of  $P_{nm, nr}$  would be the three Primary Parts  $P_n$ ,  $P_m$ , and  $P_r$ ; and that the determinants of  $P_{nn, nm}$  would be the homogeneous First Grade Secondary Part  $P_{nn}$  and the two Primary Parts  $P_n$  and  $P_m$ .

Prof. Hallett is, of course, here using the word "part" in a special technical sense.  $P_{nm}$  is, even in his sense, a part of  $P_n$ , and  $P_n$  is, even in his sense, a part of *Natura Naturata*, yet  $P_{nm}$  is not, in his sense, a part of *Natura Naturata*. A part is distinguished from a section as being "a relative whole within Nature" (p. 89). Again, "a real part differs from a section in that it reproduces the whole while remaining distinct within the whole" (p. 151). With these definitions I find it difficult to understand why the heterogeneous secondary parts are said to be only sections and not genuine parts of *Natura Naturata*. For surely, on Prof. Hallett's own showing, they are "relative wholes within Nature", and they do in their structure "reproduce the Whole while remaining distinct within the Whole", though the reproduction is less pure in them than it is in the homogeneous secondary parts. Still, there seems to be no doubt that Prof. Hallett, in his detailed treatment of the subject (pp. 209-215, and particularly p. 213) means to confine the title of "*parts of Natura*" to the Primary Parts and the homogeneous Secondary Parts. His definitions, and his previous statements, seem to me to suggest a different view, viz., that any member of the hierarchy, whether homogeneous or heterogeneous, would be a part of *Natura Naturata*, whilst sections would be divisions of the Whole

which cut across the hierarchy, *e.g.*, such an aggregate as  $P_{nm}$ -together-with- $P_{mr, ms}$ .

I do not understand how an *unmixed* reproduction of  $P_n$  in  $P_n$ , *viz.*,  $P_{nn}$ , can have parts like  $P_{nn, nm}$ , which are *impure* reproductions in  $P_{nn}$  of *impure* reproductions in  $P_n$  of other Primary Parts, such as  $P_m$ . But, since I have no idea in detail of what is meant by "reproduction" or "reflexion" in the present context, this is not, perhaps, surprising. I also do not understand what is meant by the "resolution in the Whole" of heterogeneous Secondary Parts, such as  $P_{mn}$ . The phrase calls up the idea of the "resolution" under a magnifying-glass of a purple surface into a set of intermixed blue dots and red dots, or the "resolution" of a complex wave-motion into simple harmonics. But I cannot make any consistent use of these analogies to enable me to understand what is meant in the present case.

The above is the best account that I can give of Prof. Hallett's general doctrine of the structure of *Natura Naturata*. It inevitably challenges comparison with McTaggart's theory of Determining Correspondence, which Prof. Hallett mentions on p. 211. There are, of course, great divergences in detail, but perhaps the following fundamental differences in the manner of exposition are better worth mentioning here: (i) We know exactly why McTaggart thought that the universe must have the peculiar kind of structure which he ascribed to it. He thought that it was thus, and thus only, that a certain contradiction about endless divisibility, which he carefully explains, could be avoided. I have been unable to discover any reason whatever for the belief of Spinoza and Prof. Hallett that the universe has the peculiar structure which they ascribe to it. (ii) Having proved to his own satisfaction that the universe must have the structure of a Determining Correspondence System, McTaggart carefully discussed the question whether any relation known to us is capable of answering the conditions required of a relation of determining correspondence. He concluded that the relation of perception to perceptum is the only known relation which will answer to these conditions. No such discussion is supplied by Spinoza or Prof. Hallett. We are thus left without any kind of working-model of the system; and, for persons like myself who are incapable of following very abstract arguments, this is a fatal obstacle to one's efforts to envisage the philosophy and to appraise its value.

(1.1) *Natura Naturata Extensa*.—I will gather together under this heading the most important statements which Prof. Hallett makes about the world of extension in particular, as distinct from *Natura Naturata* in general.

Prof. Hallett admits that Spinoza never got his positive view of Extension, and of how the various extended modes "follow" from the attribute, clearly stated. He thinks that Spinoza quite certainly held the following doctrines: (i) He distinguished between extension as imagined (in which the magnitude and outstanding directions of the percipient's body are taken as fundamental and objective) and extension as conceived by the geometer or the physicist (in which there is no intrinsic unit of magnitude and no absolute direction). (ii) He held extension to be neither instantaneous nor sempiternal, but to be an eternal existent which is wrongly imagined to be sempiternal. (iii) He held that extension is "modified" or "individuated", but not divided. (This means, I think, that it is not built up by the adjunction of parts which might have existed in isolation or in different arrangements.)

Beyond this point interpretation must take the form of sympathetically working out for oneself, in accordance with the general spirit of Spinoza's system, the hints which are strewn about in his writings. As I very much doubt whether I understand Prof. Hallett's speculations, I shall now try to do for him what he has tried to do for Spinoza, *i.e.*, I shall state in my own way what I suppose him to mean.

*Natura Naturata Extensa* is an extremely complex extended individual, consisting of an infinite number of extended Primary Parts, each of which is itself a highly organised extended individual, interrelated in a characteristic way. This characteristic structure of *Natura Naturata Extensa* as a whole cannot, from the nature of the case, be the structure of any other individual. It is thus, in two senses of that sacred and solemn phrase, the most "concrete" of all "concrete universals". For (a) it is a type of structure which can be realised in one and only one complex instance; and (b) this one instance includes everything that exists, since anything that is not itself a Primary Part of the Whole which has this unique structure is either a part of a Primary Part or has a set of parts each of which is a part of some Primary Part. Regarded in this light, *Natura Naturata Extensa* may be symbolised in the form

$$E^1 = \phi^1(e_1, e_2, \dots e_n, \dots).$$

Here  $\phi^1$  represents this unique type of structure. So regarded, we can speak of it as "The Immediate Infinite Mode of Extension" and we can talk of its structure  $\phi^1$  as the highest of the *Propria Communia* of extension. Spinoza gave to this mode the name *Motio-et-Quies*.

Prof. Hallett does not explicitly distinguish between the type of structure peculiar to a certain individual, and the individual which has this peculiar internal structure. He thus identifies the *Propria Communia* of extension with the Infinite Modes of extension. Whatever Spinoza may have thought, and whatever Prof. Hallett may think, it seems to me essential to draw this distinction even when the structure is such that there can be only a single unique individual which has this structure.

Now, as we have seen, each of the primary extended parts, such as  $e_n$ , of  $E^1$  will itself be an individual composed of first grade secondary parts, interrelated in a characteristic way. This may be symbolised as follows:

$$\begin{aligned} e_1 &= \phi_1^2(e_{11}, e_{12}, \dots e_{1n}, \dots) \\ e_2 &= \phi_2^2(e_{21}, e_{22}, \dots e_{2n}, \dots) \\ &\vdots \\ e_n &= \phi_n^2(e_{n1}, e_{n2}, \dots e_{nn}, \dots) \\ &\vdots \\ &\vdots \end{aligned}$$

Here  $\phi_1^2, \phi_2^2, \phi_3^2, \dots \phi_n^2$ , etc., would, I assume, be different determinate forms of a single determinable structural universal  $\phi^2$ , which would be the general structure of a Primary Part of *Natura Naturata Extensa*. Considered as a whole composed of primary parts, each of which in turn is composed of first grade secondary parts, *Natura Naturata Extensa* would be symbolised in the form

$$E^2 = \phi^1[\phi_1^2(e_{11}, e_{12}, \dots), \phi_2^2(e_{21}, e_{22}, \dots), \dots].$$

So regarded, we can speak of it as "The First Mediate Infinite Mode of Extension". Spinoza gave to this mode the name of *Facies Totius Universi*. Each of the determinate structural universals,  $\phi_1^2, \phi_2^2, \dots \phi_n^2 \dots$  would be *Propria* of very extensive range, though none of them would range over the whole of *Natura Naturata Extensa*, in the sense in which  $\phi^1$  does. It would, however, be the case that every part of *Natura Naturata Extensa* either (a) is an individual whose internal structure is some determinate form of  $\phi^2$ , or (b) is a part of such an individual, or (c) has a set of parts each of which is a part of some such individual. So  $\phi^2$ , though more abstract and less determinate than  $\phi^1$ , is, in a perfectly definite sense, all-pervasive throughout Extension. I take it that  $\phi^2$  would be the next *Proprium Commune* of extension after the supreme *Proprium Commune*  $\phi^1$ .

All this is, of course, a highly speculative interpretation and development of Prof. Hallett's much less detailed statements. Very likely I have misunderstood him to some extent, but I

think that what I have been expounding is not altogether remote from his theory of the endless series of Infinite Modes and the hierarchy of *Propria Communia*. I suspect that the two following assumptions would have to be added in order to complete our account of what Prof. Hallett believes Spinoza to have believed: (i) That from the fact that  $E^1$  has the structure  $\phi^1$  it *logically follows* that each primary part of  $E^1$  has some determinate form of the structure  $\phi^2$ . And (ii) that the determinate  $\phi^2$  is such that it *necessarily has* the determinate forms  $\phi_1^2$ ,  $\phi_2^2$ , etc., just as the property of being a conic section *necessarily* takes the form of being circular, or elliptical, or hyperbolic, or parabolic, or a pair of intersecting straight lines. Similar assumptions would, I think, be made, *mutatis mutandis*, at each stage of the hierarchy of *Propria*.

Having begun at the top and considered the descending series of extended modes, let us now start from the other end and consider Prof. Hallett's account of the *corpora simplicissima*. Prof. Hallett thinks that Spinoza conceived them as "actual infinitesimal motions through infinitesimal spaces", as contrasted with the extended sempiternal atoms of the classical atomic theory, on the one hand, and with the instantaneous punctiform "event-particles" of certain modern theories, on the other. In other places Prof. Hallett terms the *corpora simplicissima* "pure unbalanced motions, incapable of . . . continued duration". Spinoza explicitly says that he introduces the notion of them as an expository device; and he does not, according to Prof. Hallett, suppose that they could really exist. I think that it is fairly easy to see what Spinoza had in mind, and that it may be worth while to offer a speculative expansion of Prof. Hallett's very condensed statements.

For Spinoza the persistence of any finite mode of extension through a finite duration must be like the continuance of a certain same wave or a certain same noise. It could not be like the persistence of an atom, as ordinarily understood; for that would make the finite mode into a substance or continuant, whilst it is of the essence of Spinoza's theory that there are no finite continuants. Similarly, the locomotion or the locoquiescence of a finite mode of extension would have to be conceived in the same way as the "motion" or "rest" of a shadow or a wave. Thus, any mode of extension which could be called a persistent "thing" would have to be some kind of periodic process, and any "change in" this "thing" would have to be some variation in the basic rhythm of this periodic process. Now we know that complex rhythms can be "resolved into" a number of simple periodic

processes of suitable frequencies and phase-differences "superposed on" each other. In this kind of "composition" the "elements" do not co-exist with each other and with the compositum, as the bricks do in a house, or as oxygen and hydrogen are supposed to do in water. The actual complex rhythm is what exists in nature, and the simple periodic processes into which the mathematician "resolves" it are, in general, merely convenient fictions.

It remains to go one step further. The simplest periodic motion can be further "resolved" into a series of successive infinitesimal rectilinear motions, each differing infinitesimally from its immediate predecessor and its immediate successor in direction and velocity. I think that the natural interpretation of Prof. Hallett's interpretation of Spinoza is that these would be the *corpora simplicissima*. On any view they would be mathematical fictions at a further remove from reality than the simple harmonic "components" of a complex periodic process. But, on Spinoza's view, they would be fictions in a further sense. For, as we have seen, there can be no such thing for Spinoza as a particle which literally and bodily changes its place; "locomotion" must be some special kind of variation in some process of *periodic* change. Hence these infinitesimal rectilinear motions, which are feigned to be the ultimate components of simple harmonic motions, would be either variations in some other periodic process (and therefore not ultimate) or variations with no variable subject (and therefore contradictions in terms). This is my interpretation of Prof. Hallett's statements about the *corpora simplicissima* being "pure unbalanced motions, incapable . . . of continued existence".

We have now considered the two ends of the hierarchy of extended modes, and it remains to discuss Prof. Hallett's views about a certain mode which comes somewhere between the two and is epistemologically of fundamental importance to us, *viz.*, the human body. I am not sure whether Prof. Hallett regards a living human organism as a Primary Part of *Natura Naturata Extensa*, occupying an intermediate position in the endless series of *Primary Parts*, or as a Secondary Part, occupying an intermediate grade in the endless series of *Secondary Parts* of some Primary Part. It is certain that he takes it to be one or the other.

Whichever may be the right one of these alternatives, the following points are to be noticed about human bodies. We must not identify a man's body with that which is taken by himself or by other men as his body at the level of sense-perception and bodily

feeling. A man's body, we are told, "is his responsive perspective of extension". The individuality of this or that human body does not consist in its occupation of a special finite region of extension, but in its special kind and degree of responsiveness to *Natura Naturata Extensa* as a whole. Our finitude does not consist primarily in our *minuteness*, but in our *irresponsiveness* to so much which is contained in extended nature. We are also told that there is a sense in which each body extends throughout the whole, and another sense in which it occupies only a limited region. Unfortunately, we are not told in what sense it does the one and in what sense it does the other. Lastly, we may add the remark that, in a sense, a man's body is what he reproduces of *Natura Naturata Extensa*; it is "what he, and he only, mistakes for Nature".

I cannot pretend to be at all clear as to what precisely Prof. Hallett is trying to convey by the remarks which I have quoted. What he would seem to mean is roughly the following. Each human body, as it really is, is a certain partial selection from the processes which together make up *Natura Naturata Extensa*. Each different human body is a different partial selection. But in each case the selection, omission (and distortion?) are made on the same general plan, which is characteristic of the *human* body as contrasted with extended individuals of higher or lower grades, such as angelic organisms or hydrogen atoms. Now this plan or principle of selection is such that *some* of the contents of *every* region of extension will fall into *every* such selection. In this sense, every human body "extends throughout the whole". On the other hand, this plan or principle of selection is such that every selection made in accordance with it consists of an outstanding central nucleus surrounded by a fringe or field which stretches away with fading intensity in every direction throughout the whole *Facies Totius Universi*. In ordinary life the mind which animates a given human body is liable to identify his body with this central nucleus, and other men are liable to make the same mistake about this human body and about their own bodies. In this sense each human body "occupies only a limited region".

If this be what Prof. Hallett has in mind, the following physical analogy may be useful as a rough illustration of his meaning. Imagine an ideal fluid in a round basin, and imagine that at some time in the past stones were dropped into this at various places. The surface will now be covered with a most complicated moving pattern of ripples, and will continue to be so covered for the future. Yet this pattern could be "resolved into" superposed systems of ripples, each emanating from one of the centres at

which one of the stones was dropped into the fluid. Each such system of ripples would represent a different human body, which would thus, in a sense, be present everywhere in the vessel. The centre of any one such system of ripples would represent what is commonly regarded as the region occupied by a certain human body, which would thus, in another sense, be confined to a definite place in the vessel.

(1.2) *Natura Naturata Cogitans*.—Under this heading I will gather together the most important statements which Prof. Hallett makes about the world of thought.

For Spinoza, to be mental or psychical is to stand to something in the relation of a state or act of cognition to a cognised object, or, as he would say, of *idea* to *ideatum*. This relation is absolutely unique. Not only is it *different from* the causal relation, it is *incompatible with* that relation. As we have seen, each body is a certain selection from *Natura Naturata Extensa*. Corresponding to this there will be a certain selection from *Natura Naturata Cogitans*. And the latter will stand to the former in the relation of act or state of cognising to object cognised.

Spinoza, as is well known, asserted that to an idea of *x* there corresponds an idea of this idea, and an idea of the idea of this idea, and so on without end. He also claimed that this did not involve an infinite regress, because we have the same mode of the same attribute throughout. Prof. Hallett's interpretation is that the idea of the idea of *x* is the enjoyed contemplation of *x*. It counts as the idea of *x*, in respect of its being an act of cognising of which *x* is the object. It counts as the idea of the idea of *x* in respect of this act of cognising being enjoyed.

I have never clearly understood what Prof. Alexander meant by "enjoyment", and therefore this explanation does not convey much to me. I will venture the following comments: (i) Is the property of being "enjoyed" supposed to be a relational property, like the property of being contemplated, or is it supposed to be a pure quality? (ii) If it is a relational property, to *what* precisely is an idea related when it is enjoyed? Is it to another idea, or to something else which is not an idea at all, or to itself? Unless the relation be to itself, it is difficult to see that the infinite regress is avoided. (iii) If to be enjoyed is to have a certain pure quality, then, whilst I can understand that one might talk of a certain mode as "the idea of *x*" in virtue of its relation to *x*, and as "the idea of the idea of *x*" in virtue of its having this quality, I do not see what meaning one could attach to the phrase "the idea of the idea of the idea of *x*". (iv) Is being enjoyed a form of being cognised? If not, how, on Spinoza's view, do



we know anything about the attitude of Thought and its modes ? But, if so, how can one and the same term be at once the cognising act and the object cognised by it ?

We can now consider Prof. Hallett's account of Spinoza's distinction between the three kinds of knowledge. This distinction, he says, holds only for finite individuals. God has *only* the third kind of knowledge, *i.e.*, *Scientia Intuitiva* ; and any finite individual's cognition is a part of God's cognition only in so far as it is intuitive, and not in so far as it is rational or imaginative.

Both rational and intuitive knowledge is knowledge of *Propria*. As we have seen, *Propria* are not abstract qualities or class-concepts, but are types of structure of complex individuals. (Prof. Hallett, as we saw, would take them to be the individuals which have the structure.) And these *Propria* are supposed to be arranged in a hierarchy in the peculiar way which we have already explained. Prof. Hallett points out that, although Spinoza was, in one sense, a Nominalist, his Nominalism was of a very unusual kind. He took the Nominalist view of class-concepts, like "chair", "horse", "thing", etc. But he was a Realist about the hierarchy of structural universals, descending from that most complex and pervasive type of unity which is the structure of *Natura Naturata* as a whole and of no other individual, to simpler and less pervasive types of unity, each of which in some determinate form is the structure of many co-ordinate finite individuals.

According to Prof. Hallett, each mind has intuitive knowledge of that *Proprium* which is the characteristic determinate type of structure of its own organism. (We must remember, of course, that one's organism, as it really is, must not be identified with what one takes as one's body at the imaginative level.) It has *only* intuitive, and not rational, knowledge of this. And it has intuitive knowledge of this *only*. It has rational, and not intuitive, knowledge of the *Propria* which are lower in the hierarchy than this. These would be the types of structure of individuals which are parts of organisms like its own, or parts of such parts, and so on. By combining our rational knowledge of these lower implicated *Propria* with our intuitive knowledge of that higher *Proprium* which is the type of structure of one's own organism, we can "correct and delimit" the latter "by rational criticism and construction". Our ideas of individuals higher in the scale than ourselves must be based on our intuitive knowledge of our own organisms, corrected and delimited in this way. Such ideas will necessarily be abstract and discursive, but they need not be positively erroneous. These remarks apply *a fortiori* to our

knowledge of the Whole, which is the highest in the scale of individuals, and is a limit rather than a last term. The characteristic fallacies which have to be avoided are two: (i) We may attribute to lower individuals types of unity which belong only to higher ones; e.g., we might ascribe to an atom the kind of unity which is peculiar to a living cell. (ii) We may attribute to higher individuals or to the Whole the type of unity which characterises ourselves, without making the necessary modifications; e.g., we might ascribe desire, sensation, and intention to God.

With regard to all this I can only say that it may be so, but I have discovered no reason for Spinoza's and Prof. Hallett's belief that it is so. Still, if we accepted Spinoza's view that my body, as it really is, is an extract from the whole *Facies Totius Universi*, selected and organised in accordance with a characteristic principle; that my mind, as it really is, is a selection from the whole *Infinita Idea Dei*; and that the latter stands to the former in the relation of cognitive act to cognised object; the doctrine that my mind, and nothing else, has *intuitive* cognition of my body and of nothing else, would seem to be a highly plausible supplement. For plainly there are many ideas of my body, and the one which is my mind must be marked off from the rest by some unique property. And plainly I do know my own body, or certain processes in it, in a direct way in which no-one else knows it and in which I do not know any other body.

Having considered Prof. Hallett's account of the second and third kinds of knowledge, viz., *Ratio* and *Scientia Intuitiva*, it remains to expound his view of the first kind, viz., *Imaginatio*, and its objects. I must begin by saying that there is one apparent ambiguity in Prof. Hallett's doctrine. In the general account of *Natura Naturata*, it will be remembered, two distinctions were made. (i) In each set of Secondary Parts of a given grade a distinction was drawn between the one homogeneous part, such as  $P_{nn}$ , and the many heterogeneous parts, such as  $P_{nm}$ . (ii) Within each Secondary Part, whether homogeneous or heterogeneous, a distinction was drawn between two parts, such as  $P_n(p_n)$  or  $P_n(p_m)$ , on the one hand, and  $P_n(\pi_n)$  or  $P_n(\pi_m)$  respectively, on the other. These were contrasted as "adequate" and "inadequate" reflexions in a given part of a given part. Now it is clear to me that Imagination is bound up *either* with heterogeneity as contrasted with homogeneity, *or* with "inadequacy" as contrasted with "adequacy". It may possibly be bound up with both. If it is connected with only one of these distinctions, then I think that Prof. Hallett means it to be connected with the

first and not with the second. But I am not at all clear as to his meaning on this fundamental point, and I do not think that the fault is wholly mine. It is much to be hoped that, in future writings, he will clear up the connection between these two distinctions.

The general doctrine is that, at the imaginative level, my mind knows only objects of a mixed nature, *viz.*, the effects of other bodies on my body. From its ideas of these mixed objects it has to derive, as best it can, its ideas both of its own body and of other bodies. In this process fallacies of "dislocation" are very liable to be made. What I take to be my own body at the imaginative level is likely to include factors which are due to the influence of other bodies; what I take to be other bodies is likely to include factors which are due to the receptivity of my own body; and, in general, I am liable to ascribe to the several parts of *Natura Naturata Extensa* characteristics which really belong only to their joint products or their overlappings.

Corresponding to these mixed or impure modes of extension, such as  $e_{mn}$  or  $e_{nm}$ , there will of course be mixed or impure modes of thought, such as  $t_{mn}$  or  $t_{nm}$ , due to the interaction or overlapping of the minds  $t_m$  and  $t_n$ . The latter will be states of cognition whose objects are the former. Thus, presumably,  $e_{mn}$  will be what we should now call a *sensibile* (either of the special senses or organic) or an image, whilst  $t_{mn}$  will be that cognitive act or state which stands to  $e_{mn}$  in the relation of being a "sensing" or an "imaging" of it.

About Imagination and its objects we are told the following things by Prof. Hallett: "Our Imagination is not strictly 'ours' at all". Again, the object of Imagination is "that corporeal limbo of our individuality, which truly is organised with, and is an extension of our real individuality". In *Natura Naturata Cogitans* "everything positive in Imagination has been sorted out and has found its place in some eternal being". A human mind, in the strictest sense, must be identified with its intellect, *i.e.*, "its responsive organisation". Only in a looser sense can it be identified with "its intellect together with its enlightened imagination, *i.e.*, responsive organisation *plus* responding environment". To come down to minuter details: "When I perceive a red rose *something* has the colour red. I do not invent it or create it in the act of perception". The perspective of the rose and its colour "would be there even if, *per impossibile*, the perceiver became unconscious while his sense-organisation continued to function as in normal perception". A coloured flash and the light-vibrations are "the same contour of content

variously integrated", and that is why it is inconceivable that they should be perceived at once by the same sense of the same observer.

I do not find it at all easy to form any clear picture of this account of Imagination and its objects, taken as a whole. As regards the objects of imagination, it seems to me that the following analogy is helpful. Let us consider two centres A and B, each of which emits waves of various amplitudes, phases, and wave-lengths in all directions. Let some of the waves emitted by A be so related in phase and wave-length to some of the waves emitted by B that they interfere and are compounded to form more complicated periodic disturbances. Let the rest of A's radiation be so related to the rest of B's radiation that the two do not interfere, but simply co-exist in the regions through which they pass. Then A's body "in the strictest sense" would be that part of the A-radiation which is uninfluenced by the B-radiation. Similar remarks apply, *mutatis mutandis*, to B's body "in the strictest sense". The complicated periodic disturbances formed by the interference and composition of those ranges of the A-radiation and of the B-radiation which were so inter-related as to be capable of interference, could not "in the strictest sense" be assigned to A's body to the exclusion of B's or to B's body to the exclusion of A's. It would constitute the "corporeal limbo" of A's and of B's individuality. Some of it might be predominantly of the A-character, some of it predominantly of the B-character, and the rest not more redolent of one than of the other. We may further suppose that, wherever and whenever the complicated disturbances, due to the composition of a part of the A-field with a part of the B-field, are present, the region in question is characterised by a certain sensible quality.

We shall then have to suppose, if we can, something analogous to this on the mental side. We shall have to suppose that there is an intuitive idea, whose object is the A-field, an intuitive idea whose object is the B-field, and that there can be something among ideas analogous to the interference and compounding of suitably inter-related radiations. The intellect of A will be that part of the intuitive idea of the A-field which is not "interfered with" by the idea of the B-field. The intellect of B will be that part of the intuitive idea of the B-field which is not "interfered with" by the idea of the A-field. The complicated and impure idea, formed by the "interference" or "compounding" of part of the idea of the A-field with part of the idea of the B-field, will be imaginative, and will have for its object the complicated and impure periodic disturbance, with its characteristic sensible

quality, formed by the interference of part of the A-field with part of the B-field. This imaginative idea is not, strictly, part of A's mind to the exclusion of B's, or part of B's mind to the exclusion of A's. It belongs to the "mental limbo" of A's and of B's minds.

This is the best account that I can give of the theory, as I understand it. I do not think that the notion of what is strictly "my" mind and what is strictly "your" mind being continuous with a limbo of mental processes which "belong to" neither of us exclusively ought to shock us too much. For it seems to me that some of the odd facts of telepathy, and the still odder facts of "psychometry", rather strongly suggest something of the kind. But whether any mental analogy to the composition and interference of waves could be worked out, and whether, if it could, it would be necessary or sufficient to explain the relations between intellect and sense, are questions which I cannot attempt to discuss here. As in other places, so here; the theory of Spinoza and Prof. Hallett can be made more or less intelligible by sympathetic interpretation and the use of analogies; what is lacking is any attempt to show cause why one should believe it.

*(To be concluded.)*