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MIND

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PSYCHOLOGY AND PHILOSOPHY

I.—PROF. ALEXANDER'S GIFFORD LECTURES (II.).

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B. MIND.

(*a*) *Enjoyment.*

With this confession I leave S.-T. and pass to Prof. Alexander's views about mind. There are two points to be considered about this, *viz.*, the ontological position of mind and the epistemological question about its knowledge of objects. The former is closely connected with the theory of a hierarchy of complexes with new secondary qualities, and I will set it aside for the present. We are said to enjoy but not to contemplate ourselves and our states and to contemplate but not enjoy qualitied complexes of a lower order than minds. Now I find considerable difficulties about both enjoyment and contemplation. I will begin with the former. I might sum up my difficulties about enjoyment in one question: Is enjoyment by a mind a mode of knowledge or only a mode of being? The word *enjoyment* first appears on I., 12. '. . . I am accustomed to say that the mind enjoys itself and contemplates its objects. The act of mind is an enjoyment, the object is contemplated.' It seems then clear that to be an enjoyment is just to be a mental act. (I exclude for the moment the analogies to enjoyment at lower stages of the hierarchy of qualities.) The meaning of the verb *to enjoy* is more difficult. I take it that it is not intended originally to be an active verb. We enjoy enjoyments; and on this view 'I enjoy X' just means 'X is one of my mental acts'. But then we also have the phrase constantly used, 'I enjoy myself'. This clearly

cannot mean 'I am one of my mental acts'. It presumably must mean 'I am a complex composed of enjoyments'. This interpretation certainly seems to be borne out by the statement that we experience an act in the sense in which we strike a blow, but experience an object in the sense in which we strike a bell. (*Cf.*, I., 12.) If this be so to enjoy is not to know. 'I enjoy X' simply means that X is one of my acts, and it is thus a statement about the nature of X and the complex to which it belongs. It just classifies X as a mental act and assigns it to that complex of such entities which is me.

Yet Prof. Alexander constantly speaks as if to enjoy were to know, and as if we could enjoy things which are certainly not acts of our minds. Thus on I., 21 we are told that the mind in contemplating a horse 'enjoys its togetherness with the horse'. Now this togetherness is a relation between the horse and the state of my brain due to the horse. Hence I do not see that the statement 'I enjoy my togetherness with the horse' can possibly mean—as it ought to do on the above interpretation—'togetherness with the horse is one of my acts'. In fact I am constantly said to enjoy what can also be contemplated; yet I cannot contemplate my mind or its states. Thus in I., Caps. III. and IV., I am said to enjoy the space and time in which my mental processes go on, and these are said to be identical with the space and time in which my brain and its processes exist. Now the latter can of course be contemplated. Thus to say 'I enjoy such and such a space' cannot mean 'Such and such a space is one of my mental acts'; for, in the first place, the statement is perilously near to nonsense, and, in the second, it must imply that some of my mental acts can be contemplated, which is contrary to the theory. Hence the verb 'to enjoy' must have shifted its meaning. One possibility is that Prof. Alexander does here use 'enjoying' as an active verb, and not merely as a verb with a cognate accusative. He may really mean that enjoying is a form of knowing, although a different form from contemplation. On the other hand he *may* not have committed this inconsistency. The phrase 'I enjoy my mental S.-T.' *may* be elliptical. He may only mean that mental events have in fact spatio-temporal characteristics, that these are in fact the same as those of the corresponding neural processes, and that mental events are enjoyed but not contemplated. If this be so the proposition: 'I enjoy the space and time in which my neural processes go on' will only mean: 'I enjoy mental acts which in fact have the same space and time factors as those which can be contemplated in the events of my brain and nervous system'. If this be the

meaning the word 'to enjoy' is of course used ambiguously, but it is not necessarily used to mean or to imply any form of knowledge.

However this may be, the relation between enjoyment and knowledge on Prof. Alexander's view remains to me very obscure. Prof. Alexander often says, as on I., 12, that 'my awareness and my being aware of it are identical'. Now this is an important and characteristic doctrine; but surely it ought to be proved. It cannot surely be meant that to be aware of a tree, and to be aware that I am aware of a tree *mean* the same, and that it is an analytic proposition that there can be no unconscious or unnoticed awarenesses. Of course there is a sense in which it is analytic. No doubt in one sense of *experience* the statements 'I am aware of a tree' and 'I experience my awareness of a tree' mean the same. For, in this sense, *experience* does not mean knowledge; the statement 'I experience my awareness of a tree' merely means 'This awareness of a tree is one of my mental acts'. No one doubts that the word experience can be used in this sense. But in this sense I might be 'aware of' all my awarenesses and yet know nothing whatever about them, nor even know that I had them. The important question of fact is: Granted that I experience all my awarenesses in the perfectly trivial sense that they are all awarenesses of mine, am I ever or always aware of them in the sense of knowing them? Prof. Alexander of course denies that I can be aware of them in the sense of contemplating them. If this be so, then either I do not know my states of mind at all, or there must be a form of knowing different from contemplation, and of course different from 'experiencing' in the sense described above; for that is not a form of knowing my states of mind, but the form of being which states of mind have. It would then be a question of fact whether I 'knew' all or only some of my states of mind, in this sense of knowing which is not contemplating.

Against the view that I can contemplate my states of mind Prof. Alexander produces two arguments, one positive and the other negative. The first is on I., 19: 'If I could make my mind an object as well as the tree, I could not regard my mind, which thus takes its own acts and things in one view, as something which subsists somehow beside the tree'. This argument seems to me quite inconclusive. It is not necessary that I should contemplate my mind, but only a certain act of it, *viz.*, this awareness of the tree. Secondly, my mind for Prof. Alexander is a complex continuum of my acts. Therefore, to talk of 'my mind taking its acts and

things in one view' means no more than to say that a certain continuum contains two different constituents, such that the object of the first is the tree, and the object of the second is the first. I do not say that our minds are continua of this kind, but I do not see why they should not be. Certainly there is no incompatibility between this and the fact that our minds are things 'which subsist somehow beside the tree'. Probably the real objection is that on this view one part of my mind would 'subsist beside' another which itself 'subsists beside' the tree. It is probably felt that because a perception and a tree cannot both belong to a single complex which is a mind, therefore a perception and a perception of a perception cannot do so. But this seems a mere prejudice. If I could contemplate my perception of a tree, my contemplation and the perception would doubtless be 'beside' each other, as the perception and the tree are. Of course it is true that the perception and the tree do not both belong to a mind. But this is presumably because trees are not mental, not because they are 'beside' the perception of them. What has to be proved is that the 'besideness' of contemplation is incompatible with both terms being mental and belonging to the same mind. I find this frequently and vigorously asserted, but it does not seem to me self-evident, and no effort is made to prove it.

The negative argument is that introspection, which seems to make against Prof. Alexander's view, can be explained in terms of it. '. . . An *-ing* (*i.e.* a mental act) . . . may exist in a blurred or subtly dissected form. When that condition of subtle dissection arises out of scientific interests we are said to practise introspection, and the enjoyment is said to be introspected'. The common view is that in introspection a state of mind becomes the object of a fresh act of attention, just as an external object like a flower may. Consistently with his general view Prof. Alexander has to deny this; he has to hold that when a state of mind becomes introspected a change happens in its mode of *being*, not in the fact that it becomes cognised by a later act. Now it seems to me that being always differs from being known. An originally 'blurred' emotion might change in the course of our mental history into a 'subtly dissected' one, but unless both are in some sense known this will not constitute knowledge about the emotion. For this it would seem needful to know both the blurred and the dissected states, and further to recognise such a connexion between the two as makes it reasonable to call the dissected state a dissection *of* that particular blurred one. It may be that for intro-

spection it is *necessary* that a blurred state shall develop into a dissected one so connected with the former that it can be called the dissection of *it*, but this process itself *is* not knowledge of the fact that the one state has developed into the other, for no process is the same as the knowledge that it has happened. If you say; 'But this process and all the stages in it are enjoyed', the answer is irrelevent. It only means that the process and the stages in it are mental; to be mental does not *mean* to be known; and if you say that everything mental is *ipso facto* known, you ought to produce some proof for this very doubtful proposition, and to tell us by what kind of knowledge a mental state is known, since you deny that it is contemplated.

Very closely connected with this point is Prof. Alexander's theory about the memory of past states of mind. His theory of the memory of objects is plain and straightforward. It is just a present awareness with a past object bearing the marks of pastness on it. But clearly past states of mind cannot be remembered in this way, because no state of mind can be contemplated at all. Now the great difficulty about remembering past states of mind on any such theory as Prof. Alexander's is this: Suppose I thought about my dinner yesterday, and that to-day I remember this act of thinking. The act of remembering belongs to to-day, the act of thinking which is remembered belongs to yesterday. On the ordinary view there is no difficulty; remembering would be a relation between to-day's act of remembering and yesterday's act of thinking, and there is of course no reason why a cognitive relation should not thus bridge a gap in time. But on Prof. Alexander's view you cannot contemplate a state of mind, you can only enjoy it. And enjoying is not a relation between one state of mind and another; it is merely the mode of existence peculiar to states of mind. Thus a state of mind and the enjoyment of it are essentially contemporary, for the enjoyment of a state of mind is just the existence of that state. Thus memory of past states could not be described as 'a present enjoyment of a past state,' for this would be sheer nonsense; and, on Prof. Alexander's theory, it equally cannot be described as 'a present contemplation of a past state,' because states of mind—whether present or past—cannot be contemplated. What then is a memory of a past state on Prof. Alexander's theory?

I think we can understand his view best by bearing in mind his doctrine of perspectives. It will be remembered that 'space at a moment t' did not consist of the spatial characteristics of event-particles at t merely, but consisted of

the spatial characteristics of a certain selected group of event-particles of *all* dates. Similarly, I think he holds that 'my mind at 10 o'clock to-day' does not consist simply of enjoyments whose date is 10 o'clock to-day. It consists of a certain selected group of enjoyments of various dates. We have seen the principle on which some event-particles of an assigned date are included in, and others excluded from, the perspective of a given event-particle. What is the corresponding principle that includes some of last week's enjoyments in 'my mind at 10 o'clock to-day' and excludes others of the same date? The principle seems to be that these past enjoyments which are remembered by me at 10 o'clock to-day and those future enjoyments that are anticipated by me at 10 o'clock to-day are to be included in the selection which constitutes 'my mind at 10 o'clock to-day'. All others are to be excluded. If you now ask Prof. Alexander how he reconciles the presentness of my memory of yesterday's thought with the pastness of the thought and with the denial that the one contemplates the other, his answer will be, I take it: 'The remembered thought is past, for its date is yesterday; but there is a present memory of it, because this past enjoyment is included in that set of enjoyments of various dates which constitutes 'your mind at 10 o'clock to-day'.' I support this interpretation by the following passages, all from I., 127: '. . . The past enjoyment is the way in which the actual past of the mind is revealed in the present; but it is not revealed *as* present'. '. . . It is not revealed *in* the mind's present, though it forms one part of the total of which another part is the mind's present.' '. . . It is imagined to persist with the present; and so it does, but it persists as past.' 'If time is real the mind at any present moment contains its past as past.'

Now, as regards this view there are two remarks to be made: (i) As usual there seems to be a confusion between being enjoyed and being known. It may, for all I know, be a precondition of my present memory of my past state that this past state shall form part of 'my mind at the present moment'. But memory surely is a kind of knowledge, and just as it seems to me that the mere existence of a present state in my mind *is* not knowledge of that state, so equally the mere existence of a past state in my mind *is* not knowledge of it and therefore is not memory. Surely Prof. Alexander's sound principle that no object gains its existence or its qualities from the fact of being known ought to be supplemented by the equally sound principle that no existent—not even an enjoyment—gets known from the mere fact of ex-

isting and having such and such qualities. It seems to me that his best plan would be (*a*) to keep his distinction between enjoyment and contemplation, and then (*b*) to supplement it by a distinction between enjoyment and knowledge by enjoyment (and also probably by one between contemplation and knowledge by contemplation). Knowledge by enjoyment and knowledge by contemplation would then be two different sorts of knowledge by acquaintance, if the latter phrase be used merely as opposed to inferential and to descriptive knowledge. But, whilst contemplation would be acquaintance, enjoyment would not. The doctrine would then assume the following much more plausible form: We have knowledge by acquaintance, in the sense of non-descriptive and non-inferential knowledge, both of external objects and of our own states of mind. But this knowledge is differently conditioned in the two cases. The mere existence of our state of mind is *ipso facto* accompanied by and forms the foundation of direct judgments about them, which we will call knowledge by enjoyment. The mere existence of external objects does not found immediate judgments about them. These require a certain relation between the mind and them, *viz.*, contemplation or acquaintance. This relation does not subsist between minds and their states, and is not needed. When the relation of contemplation subsists between our minds and external objects it founds judgments of contemplation, which resemble judgments of enjoyment in being non-descriptive and non-inferential, but differ in the respects mentioned above. I do not say that this is true, or that it is what Prof. Alexander means, but I cannot help thinking that it would improve his theory.

(ii) Apart from this standing difficulty there is another that is perhaps worth mentioning. Does the statement 'X is a state remembered at *t*' just *mean* that X is one of the past states included in 'the mind at *t*'? Or does 'the mind at *t*' just *mean* the selection of states that are present, or past and remembered, or future and anticipated? On either of these alternatives the statement that a past state is remembered if it forms part of the mind at the moment of remembering is merely trivial and analytical. For, in the one case, memory is just defined by reference to the mind at the moment of remembering; and, in the other, the mind at the moment of remembering is just defined by reference to remembered and anticipated states. Prof. Alexander's doctrine of the remembering of past enjoyments is only substantial if (*a*) those past states which are remembered have some intrinsic distinction from those that are not, and (*b*) the mind at a

moment is, not a mere artificial, though legitimate, selection of states of various dates, but something naturally marked out and recognisable. Now, I grant that by 'my present self' I do not mean a mere instantaneous cross-section, also that 'my present self' undoubtedly includes my acts of remembering past and anticipating future enjoyments. But, from what has gone before, it evidently does not follow that it contains these past and future enjoyments themselves. That I can make a selection of past, present, and future enjoyments on these principles is obvious enough. And I can *call* such a selection 'my present self'. But that 'my present self,' in this sense, is anything that I actually recognise as a natural unit, or that it is any less artificial than a momentary cross-section, is by no means obvious.

(*b*) *Contemplation.*

The details of contemplation are very elaborately worked out in Vol. II., and much that is of great value and interest is said there. But I must confine myself to the general outlines and a few special points. It is of the essence of Prof. Alexander's theory that there is no peculiar relation which can be called the cognitive relation. There is one common relation between all finite parts of S.-T. however high or low they may be in the hierarchy of complexes. This is called *compresence*. A stone is compresent with another that attracts it, just as a man's mind is compresent with a stone that he perceives. But we say that the man cognises the stone, whilst we do not say that the one stone cognises the other. The difference is not in the relation, but in the nature of the referent. When a complex which has mentality is compresent with a stone we call the relation cognitive; when a complex that has only mechanical and secondary qualities is compresent with a stone we do not talk of cognition. Since any bit of S.-T. is compresent with any other, since cognition just is the compresence of a complex which has mentality with some lower complex, and since we are complexes with mentality, it might be thought that we ought to cognise everything in the universe below the level of mind. Prof. Alexander's answer is that pairs of finites may not be compresent to each other with respect to all their characters. Thus, things behind my back are not compresent with my mind if I am not thinking of them; but they are still compresent with my body since they exert attractive forces on it. Such things never fail to be compresent with me in

some capacity of me,' though they may not be compresent with me in my capacity of a thinking being. (*Cf.* II., 99-100.)

This solution of the difficulty has implications which Prof. Alexander does not explicitly state, and which it is important to notice. He cannot merely mean that unnoticed things are compresent with the part of my body which only lives and does not think, but not with the part that thinks as well as lives. For, if this were so, there would be a finite bit of S.-T.—*viz.*, this latter part—with which they are not compresent; which is contrary to his view. We must therefore suppose that everything is compresent with the part of my body that thinks, but not with it *qua* thinking. What does this involve? A certain set of motions has the quality q_n, and, consequently, all the lower qualities q_{n-1}, q_{n-2} . . . , etc. If everything be compresent with it everything makes some difference to this—as to any other—set of motions. If some things be not compresent with it *qua* possessing the quality of q_n but only *qua* possessing (say) q_{n-1}, q_{n-2} . . . , etc., this must mean that a set of motions possessing the qualities q_n, q_{n-1}, q_{n-2} . . . can be modified without any modification of q_n. Thus it is implied that there is not an unique correlation between a set of motions that possesses the quality q_n and the quality q_n itself. Presumably the higher your complex the more modification it can undergo without change of its highest quality.

In sensation some sensum B evokes by causal action a set of motions in the brain of an observer. These motions are enjoyed, and the enjoyment of them is the sensation of B. Any other sensum B′ would excite different motions, and the enjoyment of these would be the sensation of B′. But suppose we are aware of an image or of a memory. Here the object that we become aware of is not the cause of that brain-state which, as enjoyed, is the awareness of the object. The cause may be purely internal to the body. But the final result is the same, *viz.*, the production of a set of motions which (*a*) is complex enough to have the quality of consciousness and (*b*) is 'appropriate to' the object, so as to be the consciousness *of it*. Just as every finite object that affects our minds produces the appropriate act, so no act exists without an appropriate non-mental object. And this object may be quite independent of the cause of the act. (We shall have to deal later with the apparent exceptions presented by error and illusion.)

The first point that seems to need further light is the relation between 'compresence' and 'appropriateness'. At stages below life and mind it would seem that compresence

practically comes down to causal influence, and that appropriateness is secured by the assumption that any difference in the cause involves a difference in the effect and conversely. The explanation also applies at the level of mind in the case of sensation. When I am aware of an image the image and the brain-process are compresent, and the latter is appropriate to the former. But the compresence does not here mean causal influence, and thus the appropriateness cannot be secured by any axiom about causation. It would seem that here the appropriateness must be the primary fact, and the compresence derived from it. We call this image compresent with this act of imaging because the latter is appropriate to the former and not to any other object.

Now the question that arises is: What justifies the assertion that every act has an appropriate object in the non-mental world? An act is a certain brain-state with a mental quality. This may be produced by causes which have no connexion with the object to which such an act is appropriate. Surely we might expect such acts to be constantly happening in the absence of any appropriate object. Nor do I see how we could tell in any given case whether there was an appropriate object or not. A certain brain-state is produced by causes internal to our bodies; this brain-state is complex enough to be conscious and we enjoy it; and we define the consciousness of the appropriate object to be this enjoyment. What is to prevent all this going on even if there be no appropriate object in the non-mental world? The object has nothing to do with the causation of the brain-state, so that might happen in its absence. The object has nothing to do with the brain-state being conscious, for that is entirely dependent on the structure and complexity of the brain-state itself. So the brain-state could be conscious in the absence of the appropriate object. But the enjoyment of a brain-state which is conscious just is the awareness of the appropriate object. Thus I cannot see what prevents the awareness of an object from existing although no such object exists, has existed, or will exist. Prof. Alexander's epistemology is of course meant to be thoroughly realistic; but his account of what constitutes consciousness of an object seems to me to involve all the difficulties of extreme subjective idealism. The reason is not far to seek. Compresence at the lower level of existence shows itself as causal influence, and the peculiarity of this relation is that if a exists A can only influence it causally if A also exists. Thus, in this sense of compresence, the existence of a is a guarantee of the existence of anything else that is compresent with it. But at

the cognitive level compresence does not always or usually show itself as causal influence; the enjoyed conscious brain-state *a* can be compresent with the object A though there is no causal influence between them. If we ask what constitutes compresence in such cases the answer apparently is that compresence here shows itself as appropriateness. Now the appropriateness of *a* to A only means that there is a one-one correlation[1] between the two, that a different *a* would be the awareness of a different A and conversely. But this relation of appropriateness, unlike the causal relation, does not guarantee the existence of one term given that the other exists. It is a mere correlation of the internal structure of two terms. Thus *a* might exist and be appropriate to A, but this would be no guarantee of A's existence. For to say that *a* is appropriate to A only means that if there be any object of which *a* is the awareness then that object must have the A structure and not (say) the B structure. A certain key will only fit a certain lock; but if keys and locks be produced independently the existence of the key is no guarantee of the existence of an appropriate lock. So it seems that the theory tries to make the best of both worlds. It tells us that the relation of act to object is that of compresence; we ask for an illustration of this and are offered instances of causal influence between physical objects. In these instances if one term exists all others compresent with it must exist too. Then we find that acts and objects do not as a rule have this relation, but another, called appropriateness, which does not have the peculiar property that if one of its terms is an existent the other must be so too. But we slur over this difference, because we are told that appropriateness just is compresence, and we remember that the examples of compresence which we have met were such that if one term exists so must the other.

I suppose that Prof. Alexander's answer would be somewhat as follows: Compresence is one and the same relation everywhere, and the feature that we notice in causal influence is common to all instances of compresence. Now every finite is compresent with other finites. A conscious state *a* exists. Our general principle implies that there will be other finites compresent with it. And the nature of compresence is such that these must themselves exist. Among the other existent finites only that one which is appropriate to *a* is compresent with it. But, since *something* must be compresent with it,

[1] Perhaps more strictly a many-one correlation, since presumably different brain-states enjoyed by different people can be awarenesses of the same object.

and since only an *appropriate* finite could be compresent with it, there must exist a finite appropriate to a. If this be the right interpretation we have three independent premises: (i) All finites are compresent with some other finite in respect to any assigned quality of them; (ii) What is compresent with an existent finite exists; (iii) Finites that have the quality of consciousness are compresent in respect to this quality only with other finites that are appropriate to them. It follows formally from these premises that every cognitive act has an appropriate object which exists. It is often difficult to distinguish what Prof. Alexander assumes and what he claims to prove, and the above tedious discussion is perhaps justified if it disentangles the premises and the conclusions of his theory of contemplation. It leaves me with a very grave doubt as to whether there is one single relation of compresence, the same at all levels, and differentiated only by the different qualities of the relatum. At the lowest level compresence is just the fact that two finites are both bits of one continuous S.-T. This is easy enough to understand, and it is easy to see that every finite is in this sense compresent with every other. But at the stage of mind compresence has become rigidly selective, there is a one to one relation between cognitive state and appropriate object. It is obvious enough that what is compresent with an existent must itself exist, if compresence merely means coexistence as finite bits of one S.-T. But it is by no means so obvious when this meaning has dropped into the background, as it has done at the level of mind and its objects. Prof. Alexander offers other illustrations of this sense of compresence which is independent of causation. He takes them from the sphere of life. An animal acts appropriately to catch prey which he does not now see. The prey does not cause the action, yet the action is appropriate to the prey. This does not seem to me a very happy illustration. If the animal does not yet perceive its victim (say a mouse) its present action is appropriate only in a general sense; it is one that can equally be continued into the movements needed for catching a mouse or into those needed for catching a bird. On the other hand the act of imagining a future scene is supposed to be not merely appropriate in a general way to the image, but to be uniquely correlated with it. Again, it is asserted that a mental act cannot exist without an appropriate object; and we have objected that on Prof. Alexander's view it is difficult to see why this should be so certain. Now cats often make the appropriate movements for catching mice and then fail to catch them—sometimes because it is not a mouse

but a bit of dead leaf that starts their actions. Thus the illustrative analogy is rather in favour of our objection than of Prof. Alexander's theory.

(c) *Appearance and Illusion.*

This brings us to Prof. Alexander's view about appearance and illusion, a subject which is always the crux of realist theories of perception. He distinguishes between real, mere, and illusory appearances. Real appearances are genuine parts of a perceived thing. From different positions we perceive different parts of the same thing and these are its real appearances. An example is the elliptical visual appearances of a circular object. Mere appearances are real parts of some complex of several things. Thus the bent visual appearance of a stick half out of water is a mere appearance of the stick, because it is not a part of the stick as such but of the more complex thing 'stick-in-different-media'. Lastly, illusory appearances are cases where the observing mind intrudes itself into what is observed. 'An illusory appearance is so only so far as it is supposed—either instinctively . . . or by . . . judgment—to belong to the real thing of which it seems to be an appearance.'

There is an interesting comparison (II., 191-192) between this view and Prof. Stout's, which throws some further light on the above distinctions. For Stout all appearances would be at best *mere;* for in any apprehension by us of external objects our own bodies are concerned, and the appearance apprehended is a function of them as well as of the external object. Prof. Alexander says: 'For us this position is unacceptable, because the action of the sense-organ is part of the process of sensing . . . not its object . . . The distorting or qualifying thing must be either observed or observable in the sensible object.' I do not quite understand whether Prof. Alexander's difference from Stout on this point is substantial or only verbal. Does he accept Stout's view that changes in the sense-organ modify the apprehended appearance as much as changes in the medium between the the body and the external object? If so, the difference is merely verbal. Prof. Alexander just refuses to call variations due to my eye mere appearances because I do not and cannot perceive my eye when I perceive an external object by means of it. But I equally do not and cannot perceive my glasses when I perceive external objects through them; are we to say that distortions and changes of colour due to them are real appearances? If you answer that I can see my glasses

at other times, it is equally true that I can see my eye at other times by making suitable arrangements. If, on the other hand, Prof. Alexander intends to deny the facts alleged by Stout he has a very difficult position to maintain. So far as I can see the eye, with its lense, behaves exactly like any other optical instrument such as a camera or a magnifying glass, and no sharp distinction can be drawn between the bodily and the non-bodily conditions of the variation of appearances.

As regards real appearances of shape and size Prof. Alexander has a very interesting theory. In the first place he holds that spatial characteristics are not perceived by means of any of our sense-organs but by the brain. The use of eyes, ears, etc., is to make us aware of the secondary qualities possessed by complicated motion-complexes. But these motion-complexes *qua* bits of S.-T. excite areas or volumes in our brains. The enjoyment of these volumes is the awareness of the shapes and sizes (and, I think, distances) of the external object. Since our brains are only affected through our special sense-organs we cannot *intuit* the spatio-temporal attributes of an external thing without at the same time *sensing* some of its secondary qualities. Hence we think that we sense the spatio-temporal attributes; but this is a mistake. Really we intuit the contour of a thing by our brains and sense the secondary qualities which belong to the motion-complexes within that contour by means of our special organs of sense. Now Prof. Alexander points out the important fact that, although a circular disc looks smaller as we move it away from us, and although it looks elliptical as we turn it round, yet the felt and the seen contours continue to coincide. Though we see an ellipse and feel a circle there is at no point a gap between the two. Now what we see at any moment is those event-particles from which light reaches us at that moment. These are not contemporary. If we are looking straight down on the disc the centre is nearer to us than the outside parts, light has therefore further to travel, and so what we see at the centre is earlier than what we see at the outside. The further we are from the disc the less is the difference in time between the central and the peripheral events that we see and this difference apparently is seen as decreased size. Similar remarks apply to the elliptic visual appearances. Thus all can be regarded as parts of the one thing because the thing is something with a history and the visual appearances are selections of events of different dates in that history. Touch, though not perfect, gives us the nearest approximation to the real geometrical properties of things.

The above theory, if I have understood it aright, seems to me to contain a very valuable suggestion for dealing with conflicts between sight and touch. Once we remember that things are not momentary volumes but have a history, and consequently are extended in four dimensions, we see that the phrase '*the* shape of a thing' needs definition, and we see that the object of vision on a realist view cannot be a set of contemporary parts of the thing. And, if space and time be so closely bound up with each other as Prof. Alexander holds, temporal differences in an object might, I suppose, be interpreted as spatial differences. But these valuable hints need considerable working out. In the first place, when Prof. Alexander says that touch gives us the nearest approximation to 'the real geometrical properties of things,' we should like a clear definition of what is meant by *the* shape or *the* size of a thing, taken as a four-dimensional contour. Secondly, the touch that assures us that a disc is circular is *successive* touch; we run our fingers round the edge. Thus the object of touch no more consists of contemporary event-particles than does that of sight. And the more slowly we run our fingers round the edge the greater will be the time differences between the event-particles felt. These differences thus (*a*) depend on our own action, and (*b*) are much greater than any that occur in the object of sight (for the latter are inversely proportional to the velocity of light, and the former to that of our fingers). It seems odd then that the deliveries of touch should be so constant as compared with those of sight, if the variations in those of sight be due to time differences in the different parts of the seen object.

The theory of illusory appearances I find more difficult to follow. The general principles are clear enough. In *all* perception there is ideal supplementation of a sensum by association. If the perception be not illusory this supplement can be verified by sense in the perceived object on further experience. If it be illusory it cannot. 'An angel would see illusory appearances as mere appearances,' because he can contemplate the percipient's mind as well as the perceived thing, and can thus see—what we cannot—that the attribute ascribed to the latter really belongs to the complex thing composed of it and the former (II., 213). The main difficulty is over illusory sensations. Suppose I see a certain patch as green (through contrast) when it is really not green. Then according to Alexander (*a*) the green that I see is actually in the world, (*b*) it is not merely an universal green that I apprehend, and (*c*) the mode of filling a patch with a colour is a real factor in the world. The illusion

consists in seeing the real particular green, in the real relation of 'filling' a contour to which it does not stand in this relation. On II., 214, we are told that 'the actual intuited space of the grey patch is filled with the green quality'. And the cause is that 'the mind squints at things, and one thing is seen with the characteristics of something else' (II., 216). Now I really do not see how all these statements can be reconciled. A certain intuited contour is filled with a grey colour, and this means that motions of a certain kind are going on within it. We see this patch as green. The particular green of the patch really is somewhere else in the world. Where precisely? Let us say in a particular piece of grass. This means that in the contour of the piece of grass motions of another kind are going on. In what way and in what sense can our minds put the particular green of this bit of grass into this grey contour? The statement that 'the actual space of the grey patch is filled with the green quality' suggests that the mind really transfers (in a perfectly literal sense) the green motions of the bit of grass into the grey contour. But if it does this the originally grey contour really is green for the time being, and there is no illusion; whilst presumably the bit of grass must really cease to be green. This cannot be what Prof. Alexander means: but I can offer no suggestion as to his real meaning here.

C. The Hierarchy of Qualities.

I regard this doctrine as perhaps the most important thing in Prof. Alexander's book. I believe that something of the kind will prove to be the necessary and sufficient means of settling the embittered controversies between mechanists and vitalists, if only the extremely muddle-headed protagonists on both sides could be got to see what they are really arguing about. And I think that Prof. Alexander is quite right in holding that the question ought to be raised at a much lower level than that of life or mind, certainly at that of chemical action at least. It is needless to enlarge on the doctrine, for the general outlines of it will be clear enough from examples that have occurred earlier in this paper. There are just two points, however, that call for some criticism.

(i) Prof. Alexander holds that if a complex has the quality q_n then it is always a specialised part of it that will possess the quality. This part will indeed also possess all the lower qualities q_{n-1}, q_{n-2}, . . . But the rest will *only* possess q_{n-1}, q_{n-2}, . . . I do not see any very good reason for this view. It is of course suggested by the analogy of the brain, which

has consciousness as well as life, etc., and is an integral part of a larger whole which has life, etc., but no consciousness. But I do not see why *e.g.*, a coloured physical object *must* consist of specialised coloured motions dotted about within a contour among others that are merely mechanical. It *may* be so, and it provides Prof. Alexander with a convenient way of dealing with intensity; but that seems to be the only argument in favour of this possibility.

(ii) It is not clear to me that 'quality' is used in the same sense all through the alleged hierarchy. *E.g.*, red seems to me to be a quality of a certain motion-complex in one sense, and life to be a quality of a more elaborate complex in a very different sense. By saying that a body is living I just *mean* that its motions and other changes fit into each other and into the environment in certain characteristic ways. The statement is an analysis of its characteristic modes of change. But by saying that a motion is red I certainly do not *mean* that it is a vibration of such and such frequency. The statement is not an analysis of its characteristic mode of motion, but is the assertion that a property, which is not analysable in terms—such as velocity, frequency, etc., that apply directly to motions as such, occupies the same contour as a certain set of motions. Prof. Alexander holds that organic sensa are characteristic of living bodies and are contemplated by us when we have organic sensations. If this be true organic sensa are qualities of living bodies in precisely the same sense in which colours are qualities of certain non-living bodies. But the *life* of a living body does not seem to me to be a quality of it in this sense, for the reasons stated above.

We are told that the characteristic behaviour of a living being could be exhibited *without remainder* in physico-chemical terms, provided only that the nature of the physical constellation were known. 'If we could secure the right sort of machine it would be an organism and cease to be a material machine' (II., 66). Yet life is not an epiphenomenon; such and such a constellation *could not* exist without life. Similarly I suppose that such and such a vibration *could not* exist without being red. Now I agree with this; but I believe that the 'could not' has a different meaning in the two cases. If life could be exhibited without residue in physico-chemical terms, it is because life just *means* characteristic modes of change. A machine that moved and changed as a living organism does would be alive by definition.[1] The necessity here is

[1] Though the very important difference remains that such a machine would be an *artificial organism*, *i.e.*, one produced by the deliberate action

analytical. But I do not see that red can in this sense 'be exhibited without residue in physico-chemical terms,' because no part of the *meaning* of 'red' has anything to do with motion and change. I agree that there is a perfectly good sense in saying that the vibrations which in fact are red could not fail to be red. But I understand this to be a synthetic proposition asserting it to be a law of nature that such and such types of vibration are always accompanied by such and such a colour. The statement about life is like saying that a figure all of whose points are equidistant from a fixed point could not fail to be circular; the statement about red is like saying that a ruminant cannot fail to be cloven-footed.

The sense in which it is certain that life can be exhibited without residue in chemical and physical terms is that by calling a body alive we mean no more than that it changes and moves in such and such characteristic ways. (I omit the question of organic sensa.) The sense in which it is nevertheless possible that there is something new in an organised body is that (*a*) it may be impossible even theoretically to deduce all the behaviour of such a complex from the most exhaustive knowledge of what its parts would do if they were not in such a complex; and (*b*) even if the parts obey precisely the same *laws* within as without this complex, and if therefore the peculiar behaviour of living bodies comes down to a question of *collocations*, there is still the question whether the laws and collocations of the inorganic world will account for the coming together of these organic collocations. Neither colour nor consciousness can be exhibited without residue in physical and chemical terms in the sense in which life can, since to be coloured or to be conscious does not mean to move in certain peculiar ways. The only sense in which red can be exhibited without residue in physical terms is that, since redness and a certain sort of movement are constantly connected, any proposition which ascribes a predicate to red objects can be replaced by one which ascribes the same predicate to movements of the sort that are red.

D. Universals.

Universals on Prof. Alexander's view are patterns which are or may be repeated in S.-T. Individuals are complexes of S.-T. The configuration of an individual is particular, but it follows a plan which may be repeated by other configurations

of mind, whilst an ordinary organism is rather a *natural machine*, produced so far as we know, without any deliberate design. This is the really queer thing about organisms.

at the same time or by this configuration at different times. We might be tempted to hold that it is a plan as such that constitutes an universal, and that it is merely a contingent fact that all plans are plans of configurations of S.-T. This Prof. Alexander would deny; all possibility is rooted in the actual, all that is actual is S.-T., and it is part of the *meaning* of a plan to be a plan of a configuration of S.-T. The essence of universality is that configurations of the same spatio-temporal pattern can exist anywhere in S.-T. This, Prof. Alexander thinks, is only possible because S.-T. has an uniform 'curvature' in Gauss's sense.

The last statement seems to me to be much too sweeping. We must recognise an hierarchy of universals. Let us start with something that is merely geometrical and take the series:—circles of 1″ radius, circles, closed conics, conics in general. Now suppose that the curvature of S.-T were not uniform. Then (*a*) circles of 1″ radius might still be possible at some places and times though not at all; (*b*) even if there could be nowhere and nowhen circles of 1″ radius, circles of smaller radius might be possible at various times and places; (*c*) even if this were not so conic sections of some kind might be possible always and everywhere, so far as I can see. Thus many variations in the curvature of S.-T. might be imagined which would only cut out universals of the lowest order, *i.e.*, those whose instances are particulars, such as circles of 1″ radius, and would leave higher universals, such as conics in general, standing. And, unless it be essential to an universal to be capable of having instances *always* and *everywhere*, many variations of curvature would be compatible with the subsistence even of lowest universals like circles of 1″ radius.

When we pass to more concrete universals like cats and dogs, the argument is stronger still. I cannot imagine why the existence of dogs requires complete constancy of curvature. It is admitted that no two dogs are exactly alike in shape, and that any dog changes its shape considerably in the course of its history. Thus the curvature of S.-T. might vary considerably from place to place and from moment to moment without prejudice to the possibility of things built on the pattern of dogs, or even of pug-dogs, existing always and everywhere. Of course if S.-T. were such that a pug in one place was rolled out into the shape of a dachshund by merely chasing a cat from one end of a garden to the other, the universals 'pug' and 'dachshund' could hardly be said to subsist. But S.-T. might vary in curvature without varying so wildly as this; and, even if it were so wild, the universals 'dog' and 'cat' might still subsist unmoved.

E. Deity.

I do not quite know how seriously Prof. Alexander intends his theology to be taken. I suppose it is a point of honour with Gifford Lecturers to introduce at least the *name* of God somewhere into the two volumes, and we may congratulate Prof. Alexander on the ingenuity which discovered a place in his system for something to which this name might be not too ludicrously applied. Whether the religious consciousness will be satisfied with Prof. Alexander's God I cannot say. He modestly professes to have very little personal experience of religion, and, as I too come very much nearer to 'our countryman Dr. Middleton' than to 'the Cardinal Baronius' on that 'theological barometer' suggested by Gibbon, of which these two theologians were to form 'the opposite and remote extremities,' it would ill become me to say what the religious consciousness does want. Prof. Alexander's candidate for the position of God has the two merits of being necessarily mysterious to us, and being in a definite sense higher than ourselves. The vaulted roof of St. Pancras station seen at midnight has been known to evoke the religious emotion in one eminent mathematician returning to Cambridge from a dinner in town; and what the sight of St. Pancras has done for one man, the thought of the next stage in the hierarchy of qualities may do for others. It might indeed seem difficult to feel much enthusiasm about a God who does not yet exist, and who will cease to be divine as soon as he begins to be actual. Still the merit of faith is commonly held to increase with its difficulty, and the merit of religious adoration may vary according to a similar law.

Frankly it seems to me that the doctrine of what Prof. Alexander calls 'deity' is an integral and important part of his system, but I suspect that it is not what anyone else means by deity, and that it has been somewhat strained to make it fit in verbally with the concepts of religion and theology. If Prof. Alexander really does feel towards his deity as religious persons do towards their God I apologise most humbly for poking fun at it.

The theological reference seems to have warped the discussion in at least two ways. (i) We hear much more of the quality of deity as such than about the beings who would possess it. This is because the former is identified with God, whilst the latter would merely be gods, and polytheism is out of fashion. But all sorts of interesting questions could be raised about gods in Prof. Alexander's sense. There may be gods, with respect to us, existing now. If there be we might

stand in one of two different relations to them. Our brains might be parts of a god. This might be true of some of us and not of others. The 'good old German God' might be more than a myth if it would consent to forego its capital letter. The quality of deity might belong to a material system composed of special parts of the brains of all Germans or of all Hohenzollerns. Taking the latter hypothesis the brains (and consequently the minds) of Hohenzollerns would be connected with the good old German god in a way comparable to that in which the merely living part of our bodies is connected with our brains, which think as well as live. The brains of other Germans would only stand to the German god in a sort of relation in which (say) plants stand to animals. In general, if any gods exist now, parts of the brains of some of us might be parts of a material system which has deity. Others of us might have no share in any god. Or it might be that all men and no animals stand in the more intimate relation to some god. We might expect that if some men stand in a much more intimate relation to deity than others this would show itself in their lives and thoughts. With half the ingenuity that Prof. Alexander has lavished on proving that his God has many of the attributes ascribed by theologians to their God, I would undertake to work some of the most characteristic doctrines of the Christian religion into his system on the basis of the possibilities outlined above.

(ii) I think that the theological implications of Prof. Alexander's phraseology have led him into a quite unjustifiable optimism. He seems to hold (*a*) that S.-T. will always go on producing higher and higher complexes with new and more wonderful qualities, and (*b*) that we ought to regard these new qualities with something of the love and reverence which religious persons feel for their God. But these assumptions seem to me quite baseless. (*a*) What we know of nature, apart from alleged divine revelations, rather tends to suggest that the higher complexes, such as those that carry life and mind, are unstable; that they can only arise and persist under very exceptional conditions; and that these conditions are unlikely to be permanent. (*b*) What we know of the relations between beings who have only life and those which have both life and mind does not justify a very comforting view of the probable relations between ourselves and gods. Animals have life and mind; plants, I suppose, only life. The main relation of the worshipper to the god in this case is that the latter eats the former when it can. Whilst this presents an interesting variation of the religious

conception of the Sacramental Meal, it may cause the timid worshipper to view the coming of the Kingdom with a certain degree of apprehension.

I must bring this long discussion of Prof. Alexander's book to an end. I have mainly mentioned points where I disagree or feel difficulty. The system is so original, and so many hard questions are dealt with in the book, that it is almost certain that I have misinterpreted Prof. Alexander in many places. It will necessarily take the philosophic world some time to think itself into the new positions, and we are bound to make mistakes in the process. The author himself must give us help on the way; and it is in the hope that he may be moved to do this in the pages of MIND that I have 'praised with faint damns,' which, I hope, have not disguised my admiration for a great work of philosophic speculation, nobly conceived and conscientiously carried through.