II.—SOME EXPLANATIONS.

BY S. ALEXANDER.

At the end of his article on my book, Mr. Broad invites me to clear up the difficulties which he has found in it, and with the permission of the Editor I respond to his invitation. Mr. Broad is a critic who, however keen and unsparing he may be, lays his mind alongside that of his author, and helps the author and himself and the reader at once; and if I did not feel grateful for such criticism and flattered by it and anxious to meet his wishes, I should be past hoping for. Of course I see the whole of my work together, and the reader reads it in pieces, and many things in detail may seem obscure to him which seem clearer to me. But I have no doubt that much in my book is difficult and obscure as well as questionable, and that in some places, especially where, as in the fundamental account of Space-Time, I have myself been groping in regions new to me, and fumbling for want of equipment with proper instruments, the obscurity is my own fault. However, at the risk of repeating myself, and even if I have to be a little desultory and gossipy and personal, I will do my best to explain, not every point which Mr. Broad has raised, but the major matters.

A.

The January portion of Mr. Broad's article dealt with my two initial chapters of Book I about S-T. I begin by repeating that my account of the matter is metaphysics in the strictest sense and not mathematics or physics, and with a view to what follows I shall make some remarks about this difference. The science of metaphysics (for it is a science for me, and not directly a discussion of what is called 'life') differs from the other sciences in two ways. In the first place, it is rather descriptive than explanatory, whereas they are rather explanatory than descriptive. This affords one reason why system in metaphysics repels many people, for so much of the system looks like ticketing a great mass of ideas and arranging them in their places like specimens in a

museum. And yet there is endless satisfaction in seeing how all these things illustrate the one principle which has to be found before the arrangement can be made; and the only danger to the metaphysician is that he should be so enamoured of his principle as to misdescribe the ideas he is arranging.

Moreover, people are impatient of metaphysics because it seems to and does explain nothing. Like Margaret Fuller, it accepts the Universe. For instance, several persons have found fault with me because I do not explain why in the development of S-T, as I represent it, colours and life, etc., should 'emerge,' as Mr. Lloyd Morgan and I say. Well, that is not my business, and further I don't see how it can be anybody's business, except to note the facts and be grateful for them, or at least put up with them. Many are quite content to say it is God's doing. I should not use their language, because I think it unscientific, but I agree with the spirit of it.

This is, however, comparatively a less important difference. The main thing is that metaphysics is the most concrete of all the sciences. The statement sounds extravagant only because of the highly rarefied character of the subject matter of metaphysics. But abstract is not the same thing as abstractions. S-T and the categories are excessively abstract, as compared with life or mind or material existences; but they are overpoweringly actual. Now what I mean when I say that metaphysics is the most concrete of the sciences is, that in metaphysics no conception is employed for which it is not pointed out directly or indirectly what is the correspondent feature in actual experience. In all the other sciences, conceptions are freely used which are adopted without examination. The most obvious one is that of relation itself. It is the special business of metaphysics to examine these conceptions which are taken for granted in the other sciences and to find them in experience itself. It was a great advance towards concreteness when S and T were discovered to be, in Minkowski's phrase, shadows of S-T whatever S-T may be. But physics still speaks of number and order and things and the like; and that is the condition of its existence as an independent science.

Now these leavings of the other sciences upon which metaphysics lives are the categories; and what I have tried to do is, assuming S-T to be the foundation of the universe, to point out one by one what the experienced features of S-T are which are the categories. Whether I have succeeded is another matter, but I have tried to get rid of every abstraction, to be utterly concrete, and to show that you may use

the categories legitimately of every existent because they are the experienced features of any bit of S-T, and therefore, if my hypothesis is sound, of any existent. Therefore, in metaphysics no neutral concepts from which to deduce reality, including S and T! For if I am right, then these so-called neutral concepts, relation, number and the rest, are themselves made of S-T and presuppose it, and they are not neutral but concrete like S-T. They are only neutral in the sense that they are neither matter nor mind. But in physics and mathematics and the other sciences, these concepts are rightly left unexamined, and that is why the sciences are less concrete than philosophy. The one thing which disappointed me in Mr. Broad's article was that he does not appear to realise that for me the doctrine of the categories, taken along with the notion of S-T, is central; and this failure of insight affects his criticism of me where he discusses my account of S-T. I am not reproaching Mr. Broad. Hardly one or two of my critics have seen the point. It is only that one expects more from Mr. Broad. And while I am in this mood I will get rid of such spleen as I have against some of my reviewers, whose reviews I have seen. Anger is not my master passion; but I have felt something approaching irritation when my first volume, which is fundamental, has been passed over with a word (not of course by Mr. Broad) and exclusive attention directed to the theory of knowledge, and even in some cases the whole doctrine is declared to depend on the theory of knowledge which I expressly declare to be derivative.

Now to the application of these rather general remarks. It will be convenient to take first the position that S and T are necessary to each other, so that each is an abstraction from S-T or Motion and not the reverse. I will come back to the question of perspectives later. That the world is a world of events was for the mathematicians an intuition; the philosopher arrives at the same result by his plodding method of consulting experience direct. Take Time. Its successive-ness is inconsistent with its duration. Yet in experience it is both successive and endures. How can that which intrinsically perishes from moment to moment also endure? Mr. Broad answers by asking another question: why cannot a duration be a whole of related but successive moments? (MIND, xxx., hereafter quoted as M., p. 35); or again, the instants related as successive may as a complex have the property of duration. (Imagine that I who am perpetually speaking in vol. ii. of *emergents* should forget that!) Now this illustrates my remarks about the categories. What is 'relation' in virtue of which duration is a whole of related

successive moments? What does relation stand for in our experience? I answer that it already implies S-T, and that until it receives its concrete interpretation it is in metaphysics a word. To say that duration is a whole of related but successive moments is only to say that moments in fact not only are successive but constitute a duration; and this is the very fact I start from. But it involves an apparent contradiction.

Mr. Bradley solves the contradiction by declaring S or T to be appearances of an absolute reality. But 'appearance' and 'absolute' as thus used are mere concepts, supposed to be legitimately inferred from fact but really postulated concepts. I answer, Go to the concrete experience; and there you find another continuum, S, which gives T something to hold on by; and the successive, perishing nows of T *can be related* into a duration because T is inextricably involved with S within the one Space-Time. What seems contradictory is not the empirical T, and the empirical T is not contradictory. For it is not mere T but is spatial, being the T side of S-T; and this S-T is not a mere concept but is the empirical reality, reduced to its simplest terms, in which we live. Further, though S and T by themselves are abstractions, they are real in so far as they are discoverable elements of the reality S-T; the abstractions are not mere inventions of the mind but well-founded.

Thus the plain concrete fact is that S and T are mutually involved: Time is as duration spatial, and Space is as divisible temporal. There is no circularity here: they do not merely wash each other's linen, as Mr. Broad quotes laughingly (I can't help thinking that by this time that linen has been washed so often that it can stand no more washing): each has a different job. I go on to show that it is not enough that there should be two continua, one primarily successive, and the other primarily extended, but that the many-one relatedness of points and instants (which is actually found) is needed. Mr. Broad detects a vicious circularity: but I can see none, and I think his propositions on page 36 are not accurate. I admit I have been careless in saying each instant has *its* point, and each point *its* instant (M. 34). But I do not say that successive instants are connected into a duration because each instant involves an enduring point, and that a point endures because it occurs at many instants. That would be circular. I say (1) that an instant could not be a part of a duration if there were no element with it which was non-successive; (2) but that this is not enough: in order that a point should endure it must occur at many instants, and in order that instants should be successive,

each must occupy many points. There is no vice here. The last proposition, that each point is in fact repeated throughout the whole of time, etc., is not really contradictory to propositions iii. and iv. The repetition I am dealing with is intrinsic repetition (see my I, p. 49). In the passage quoted from I. 81 the repetition is that of a point in a section. I shall refer to this later.

In my attempt to establish the connexion of the three dimensions of S with the characters of T, I have been very presumptuous, as I confess (A. I., 58—I shall refer to my book as A). But I will explain my purpose. S-T is, in the mathematical sense, of course 4-dimensional: events vary in four orders. I may have given a different impression, but I did not mean to impugn that at all—to say that the world is a 3-dimensional one. What I feared was that the mathematical statement is taken to mean that the time-dimension is added on merely to the three spatial ones, and I have tried to show that it is not independent of them, nor they of it. In other words, I wanted to deepen our sense of the obligations of S and T to one another, that each was a part of the other's being. It is probable enough that I have not succeeded. A very competent correspondent told me (the remark was not intended for publication and I have not asked his leave to publish it) that he would give his boots for the proposition to be true, but that he did not think I had proved it. I feel it in my bones that the proposition is true. If I have not succeeded in the proof some one else may; and I am not afraid to be wrong in a good cause.

Mr. Broad thinks I have failed, and in our long and amicable correspondence in the matter I failed to move him or he me. He fails to move me still in what he gives on M., 37 ff. He has certainly pointed out some incorrectness in my statement, which may however readily be mended. (a) It would be quite enough to say (M., 37) let there be two instants t_1 , t_2 at two different points. (b) My 'either . . . or' certainly means 'both . . . and'. The real difficulties are those urged on page 38, though as Mr. Broad himself says I have tried to anticipate them in the footnote (A. I., 53). Why should there not be many motions in the same line, starting at different moments, or going in different directions? Now I still think that these questions assume that our line is drawn in a 3-dimensional space and that we are looking on from the outside. We are not thinking ourselves into the 1-dimensional space of which we are speaking. Moreover, they assume, I believe, an absolute space and an absolute time in this world. But in fact, as I see now, the difficulties raised

are really irrelevant. For it is enough to speak of any one motion in a line. Granting that T in any perspective is irreversible in direction, the S of that perspective of S-T could not be 1-dimensional, and that is enough for my purpose. (I think that the notion of a perspective where the S is 1-dimensional is probably impossible; but of perspectives more presently.)

I do not speak of the further and still more complicated later arguments, beyond saying that I am sure I ought to have been able to state them more easily. But I do not believe that the apparent plausibility of the arguments arises, as a writer in the *Oxford Magazine* with the not-unidentifiable initials H.B.W.J. says, merely from the representation of T spatially which I have adopted. On the contrary, it seems to me the only way of representing the T, seeing that S is only 3-dimensional. You could of course dispense with representation altogether, but the periphrases would be intolerable. The truth is that it is the attempt to represent a 4-dimensional world where the T dimension is as it were homogeneous with the three spatial ones which presents the really formidable difficulty, as any one can satisfy himself who refers to the humorous treatment of this difficulty by Mr. Eddington (*S, T, and G*, p. 49).

I come now to the general account of S-T which Mr. Broad discusses first. I seem to have given him a great deal of trouble, but at any rate he has given a perfectly clear and faithful statement (*M.*, 29-30) of my meaning. I know that to speak of pure S-T is puzzling; and it is of course a theory to suppose, as I do, that material and all qualified events are as it were nodosities in S-T. I should not have many philosophers with me in the idea of a pure unqualified S-T actually existent before objects. Only perhaps I may invoke Spinoza to stand beside me and the pale ghost of Timæus of Locris. Still at any rate we may consider the purely spatio-temporal characters of things by themselves. And next I ask the reader to consider the question in its connexion with our apprehension of S and T which I call intuition. I have always been troubled by the question of how to co-ordinate the so-called independent spaces of touch and sight, and I do not see how it can be done. On the other hand, it is easy to see how touches and colours can be co-ordinated within an extension. As I so often put it, when we see a patch of colour, we see not a colour with extension but an extension with a colour. A pure S-T enables us to understand. It is for me an æther of pure motions, chaotic at first, and without differences of quality (the one quality is that of being

motion),¹ but of intensity and direction; within which groups of motions are generated which bear what we ordinarily call quality: red; or life, which I take to be a quality of living motions, not merely the motions themselves, as Mr. Broad thinks it is (M., 145).

In the next place there is the analysis of S-T into point-instants or pure events which I describe as the limits of motions and as involving a concept. I want to explain myself and lay myself bare upon this matter because I want to get more light upon it for myself. A point-instant or pure event or event-particle (I somewhat dislike this phrase because it suggests materiality, or at least quality) is conceptual in the sense that it is not reached without the use of concepts, but for me at least it is a real constituent or element of S-T. Each point-instant is a real individual though we can never hold it. The line is composed of such, though the point-instant never is one of the terms of the route by which we approximate to it. Thus it is not artificial like a section (I return to this presently) but is actually there. The limit is actual. There is an old question which I like to hear asked in the rolling French? *L'infini actuel est-il contradictoire?* I with many another answer no. It is never completed, else how could it be infinite. Still less can we by our thinking arrive at the end. But actual it is. Now there is in principle no greater difficulty in holding the actual reality however conceptual of the point-instant, an infinite of division or inclusion though not an infinitesimal. The all-comprehended is no less actual than the all-comprehending.

Here enters once more the difference I began with speaking of between the philosopher and the physicist or mathematician. For me the important thing is that there are elements of S-T; I might define point-instants so. When I attempt to call it the limit of a motion, I am really fumbling with mathematical notions, leaving my last like an undutiful cobbler. I know that the position is difficult and perhaps it may be thought to be wanting in concreteness. But I say no, for the ideal is perfectly concrete, and you cannot dispense with real elements of S-T. At any rate this is what I have intended, seeing these difficult matters darkly through the foggy and fuliginous air of this dear Manchester.

The reason why I say all this is that Mr. Broad says that I should have made my account of S-T and its elements very much clearer if I could have used Mr. Whitehead's

¹ Mr. Broad's phrase (M., 31, line 3) 'a quality corresponding to the swiftness of the motion' is a slip. The correspondent to that is intensity.

method of extensive abstraction (which, of course, I had seen the sketch of in his *Organisation of Knowledge*). Now I do not propose to discuss Mr. Whitehead, partly because I am incompetent. I prefer to rejoice when I find myself in community with him, as for instance in our common devotion to the concrete. But though it is precious hard to distinguish Mr. Whitehead's physics from philosophy, it is still physics. It is all important for him to define his elements exactly, as he does by the method, which turns on the use of concrete durations. But at any rate he recognises that there are elements, and I doubt whether but for the previous intuition of the reality of such elements, he could have been set upon the proper method of defining them, so as to get concepts that can exactly represent them. The process is an *ex post facto* conceptual construction to replace the vaguely apprehended elements, but the elements are there before our eyes, in the same sense that the red corpuscles are there before us in the blood though we do not distinguish them. If you want to get some measure of the significance of Mr. Whitehead's account of the event-particle in terms of concrete durations, you must contrast it with Euclid's purely conceptual definition of a point as that which has no parts and no magnitude.

There is only one further remark which I will venture to make at present about Mr. Whitehead's 'method' and again because it seems to illustrate the difference I have been speaking of. Quite legitimately as a physicist he uses the conception of the 'relation' between events, without examining what relation stands for. But as a metaphysician, this relation seems to me homogeneous with its terms, when you translate it thoroughly into the concrete; and then the question arises whether you ought still to speak of S and T as being relational in the first instance and not rather as I say stuff within which relations are discriminated. This is the puzzle which besets me in reading all the recent physical work on S and T. It does not affect the truth of the work for the reason I have so often named. But according to convenience the writers speak, or appear to do so, sometimes as if S and T were systems of relations and sometimes as if they were metaphysical 'stuff'.

It is this system of S-T which I have tried to describe the look of in my account of perspectives and sections which Mr. Broad finds so much open to question and quite rightly thinks difficult and even obscure. My one object was to bring out the fact that to separate S and T is artificial, though under provisos justifiable; that S-T is a system of

events; and for this it is no matter whether events are conceived as by Mr. Whitehead as durations, or the word is used as by me for event-particles. The conception was not familiar to philosophers, and I found my task very difficult. One point I was conscious that I had left obscure and fumbled over, and that was the notion of points intrinsically simultaneous. Mr. Broad has misunderstood me. He takes me to mean (M., 31), that two flashes of light and a sound starting at the same moment would be intrinsically contemporary, though not necessarily so in a perspective. That would be assuming an absolute date for the events whereas all that I apprehend are dates as in my perspective. There comes in the conception of relativity. 'Intrinsically contemporary' points are for me the points (even in a perspective) which are occupied by one instant and give as I say (A. I., 50) an instant its structure, and are needed to make it an instant. It is in the total S-T that an instant has every point for its occupation, but that notion is the artificial one of a section of S-T through that instant.

The main position is that if you are to take glimpses of the real world of S-T (and you may add its qualities or 'objects' (Whitehead), for to the end it remains a world of events); if you wish to do this and see the world as a history, which it essentially is, you must take it by perspectives which give you historical reality and not by sections which are but useful artifices. The distinction is really quite simple. Take a finite thing, a cube say, and slice it into sections. You can reconstruct the cube from the slices, but you have to do it yourself. The slices do not add themselves together. But go round the cube and take its perspectives. You never get a slice; you take in the whole contour of the cube as far as you can see it; and (this is the point) the perspectives overlap; one cries out for the next to complete it; they fit together by themselves; and this is what happens when we see not the single perspective but the thing of which we have the perspectives, which I have therefore described as the system of its perspectives unified within a certain volume of S-T which is its 'substance' (A. II, chaps. iv. and vii.). Of course, perspectives of a finite differ from those of the infinite S-T, for the point of view there is included in the perspective and further our visual perspectives need eyes. But the great point is that perspectives are historical realities and sections are not. And as I have said before, the event-particle is historically real and the section is not, it is purely conceptual, the other is merely *arrived at* in part by conception.

Mr. Broad gives (M., 31) a perfectly correct statement of what I mean by a perspective from an instant, except for the slips I have mentioned; but when he comes (32) to speak of perspectives from a point, he gives a notation which at first puzzled me and leads on to an important matter. He says, "the 'temporal perspective' from e_{it} includes event-particles of the form e_{it} , but none of the form e_{it} , etc.". Now alike in temporal and spatial perspectives the whole of S and T is given, though not all point-instants. I suppose, therefore, that by s' Mr. Broad means a different space from s , what he calls "the space of a perspective" (34). But he mistakes me here. The difference of one perspective from another is that points occur in the one with different instants from the other. But each contains all S and all T. Whereas total S-T contains not only all S and all T, but all point-instants. In the one case, S-T as a whole, you have every point with every time, while in a perspective you have every point with some definite instant or instants, or every instant with some definite point or points. But the framework of S and T is present in each perspective. That is the difference between a perspective of the cube taken from the eye by vision, and the perspectives of S-T taken from point-instants by intuition. We see only the illuminated part of the cube; but the point-instant 'sees' the whole of S-T and selects its perspective of point-instants. To put the same position otherwise; a section of S-T from an instant gives you instantaneous S, but though the date of every such section is different the total S is the same. With this explanation Mr. Broad will see that there is no contradiction between the two statements he quotes from me (M., 33, 34). I know quite well that Minkowski and others would say there are infinite spaces which are sections of S-T. But this I think arises from taking T strictly as an additional dimension to the three of S—a matter I have discussed already. For me there is only one S and one T, but according to the position of the observer the instants will in the different perspectives be differently, and of course only partially, distributed over the points. That is why I speak of total Space or Time; each is only one and the same in all the perspectives and in all the sections.¹ Again I think it important to make this quite clear for the better passing of judgment on my attempt at describing S-T. Moreover, it raises pretty plainly the question of the proper way to interpret relativity for philosophy.

¹ But observe that it is not as common to all the sections that I call total S or T real, but as common to all the perspectives.

I am not proposing to discuss that topic here, though I hope to do so at some other opportunity. Relativity has been interpreted in many ways, in the direction of pluralism, monism, idealism and realism, and the different combinations of these. Which is the correct one it would not be easy to say.

Finally, Mr. Broad questions (M., 32) whether it is legitimate to speak of perspectives at the level of pure S-T at all. Certainly, the word is metaphorical, though the metaphor is well grounded, because (for me) the point instant is a sort of body-mind, as explained in A. II., ch. ii. Mr. Broad thinks the notion is out of place unless the motions are not pure but qualified, light, I suppose, or sound. He forgets my notion of the 'intuition' which point-instants possess. Even if all motions had the same velocity their intuition would give them the perspective described. But of course I am in fact supposing that S-T consists of motions of all velocities (which, observe, are their intensity, not their quality. For this I refer to A. I., ch. vii). How then, it is asked, can there be several motions intersecting at an event-particle, as the perspective notion supposes? Is not that to imagine an event-particle, which is the limit of a motion, having several velocities at once? But is not Mr. Broad in finding this difficulty taking the event-particle to be not a limit but an infinitesimal, a very small duration? Velocity can arise only out of the transition between one event-particle and another—I must not say, the next. (See again the analysis of intensity.) That being so there is no more reason why motions should not intersect in the same event-particle, than why lines of different direction should not intersect in a point. I hope this statement will commend itself to Mr. Broad, even if he still finds my account of S-T after all this commentary and these admissions a failure.

B.

I had to be somewhat long upon S-T because that is fundamental in its general outlines to my book. Upon Mr. Broad's second article I can, I hope, be a little shorter. And first the doctrine of enjoyment and contemplation, which is my contribution to the absorbing question of what the mind is, and its relation to things. It is a doctrine about which I am beset with doubts, as will be plain to whoever reads A. II., 109 ff., where I speak of the doctrine of my friends the realists overseas, Mr. Holt, Mr. Perry and others. It may be I am wrong and they are right, that behaviourism in psychology and in the theory of knowledge

may be victorious. To me, the issue is that, and there is hardly a day that I do not think about it. If I live to be convinced that I am wrong I trust I shall not be afraid nor ashamed to say so. To die as a behaviourist would be, I think, quite an honourable end. Meantime, till that hateful day arrives, I pursue the policy of making a clean breast of my thought, in order that Mr. Broad and others may have the materials for a better judgment.

Mr. Broad "sums up his difficulties about enjoyment in one question: Is enjoyment by a mind a mode of knowledge or only a mode of being?" I sum up my answer by saying: it is undoubtedly a mode of being, but not *only* a mode of being, for it is that kind of being which is a knowing, and is at once a knowing of objects (in virtue of which relation it is called contemplation), and of itself. It is first a mode of being. Assuredly. My whole enterprise is a study in ontology, and have I not said more than once that the theory of knowledge is not prior to metaphysics but an incidental chapter of it? (That is why I have felt the irritation I spoke of before at certain reviewers.) I should have done better to keep throughout the words the enjoyed and the contemplated (see A. I., 13), but it would have been very inelegant. These two modes of being are at any rate the two concerned in the cognitive relation, which is their spatio-temporal compresence. Mr. Broad does not, of course, make the mistake of supposing that the act of contemplation and the enjoyment are separate existences, and so I need not linger over that.

But secondly, enjoyment is not a mere mode of being, its very essence is to be a knowing, a knowing *of* its object, and an awareness of itself, where the last of means consisting in. Mr. Broad proposes to me to say that besides enjoyment and contemplation, there is knowledge by enjoyment and knowledge by contemplation (M., 135). But I see no advantage in it. I readily admit that knowing is a word applied in the first instance to contemplation. I do not know myself in the same way as I know my object. That is in fact the point of the distinction. But knowledge by enjoyment is the same thing as the enjoyment over again. I will put the matter thus. Distinguish knowledge from knowing. Knowledge then means existences. Some of these existences are physical or other 'natural' objects. Some are acts of knowing. That knowing is a knowing of objects and is knowing of itself in the only way in which the knowing can be known. Directly you speak of knowing by enjoyment, you have to add the proviso that this is not knowing *of* the enjoyment. Otherwise you would have the mind looking on at itself, which if

the notion of enjoyment is valid, it cannot do, or at any rate does not do. On the other hand, knowledge arrived at by enjoyment and by contemplation is the original distinction of the enjoyed and contemplated over again.

Perhaps I can make things clearer and shorten my reply to Mr. Broad if I am allowed to drop a moment into gossip, assuredly not because I think my mental history interesting. I arrived at the notion of enjoyment in the first instance by thinking, like better men, about causality. Asking how a thing could be the cause of the mental state which apprehended it, and observing that we were unaware of the neural effect which it actually produced, I concluded that the presentation of the object was not as it were a mental picture produced by the thing in my mind, but was the thing itself or a selection from it, and that the mental process was an 'act' of mind which I lived through (see A. II., 157). It was then I understood the position of Mr. Moore's article in refutation of idealism. In endeavouring to make clear to myself what the nature of this enjoyment was which we lived through when the object was revealed to us, I came more and more to think of it on the analogy of the animal's or plant's selective reaction to stimuli. Accordingly, mental acts were in the line of organic reactions, only not merely vital but so developed as to allow the emergence of mind. Quite late I thought I could thus understand how our purely vital processes could be objects to us, as they are revealed to us in organic and kinæsthetic sensations, which certainly seem as much objects as colour. This recognition is one of the motives which keep me from a behaviourist metaphysics —only one, but I had better not raise this large issue here but reserve it for some later opportunity. But I had already asked myself whether the enjoyment, being like any reaction specific to its stimulus, could not be described completely in the likeness of vital reactions. Consciousness is admitted to be temporal; and I completed my view when I could see that mentality occurred along certain spatial lines. Being mentality it enjoyed itself and its own motion, and this is what I mean by saying that we are aware of or enjoy ourselves as direction, that is in enjoyed space-time. Of course, if you will try to find a direction of mental process which you can contemplate, you find none and the problem is queered from the outset.

Finally, partly by my own reflection and partly by the hints of others, I came to see how very much I had been repeating with a difference the doctrine of Spinoza. So far as S-T is concerned I have tried to explain this in a paper on

'Spinoza and Time' now published.¹ But it may clear up the theory of knowing if I point out that enjoyment appears to me to be contained in Spinoza's proposition that the mind is the idea of the body, and in that other great saying that the idea which Paul has of Peter indicates rather the constitution of Paul's body than the nature of Peter (*Eth.* ii., 17, Sch.). In other words, that the idea of Peter which Paul has is a mental condition of which the other aspect is a bodily condition of Paul, and that it is different according as it is the idea corresponding to Peter or to James. In fact, enjoyment and contemplation replace Spinoza's ambiguous use of the genitive in the phrases 'idea corporis' and 'idea Petri'. Where I still dare to differ from Spinoza is that for him there is an idea of the mind, which is united to it as the mind to the body and an idea of that idea and so on. I should say the mind is an idea and that an idea of it is merely repetition. I can only think of an idea of an idea in so far as an idea (of an external thing) is included in a larger whole of ideas which is the mind.

With these remarks I can reply to some of Mr. Broad's difficulties. He himself (M., 130) clears up the apparent absurdity of the statement that the mind enjoys its own space and time; it means simply that the mind is spatio-temporal. But the word enjoy is not "used ambiguously" (131), and it does imply knowledge, such knowledge as is suitable to enjoyment. I need not labour this further. In the same way, when I say that in contemplating a horse I do not contemplate but enjoy the togetherness (M., 130), I mean only that the togetherness of the horse with me is experienced as a character of my enjoyment. The horse would experience it as a character of his enjoyment. In other words, the togetherness is not contemplated by me (nor by the horse). Now surely this is only description of the fact. When I see the horse what I see is the horse; that is the whole object. But the togetherness is there, and is experienced by me as attached to the enjoyment, not to the contemplated.

Then there is the important matter discussed in M., 131-3. Mr. Broad raises the alternative that the mind may contemplate its own acts and be 'beside' them as the act is 'beside' the tree, and he complains that I have not proved that it is not so. Well, it is a question of fact and not of proof. Philosophy proceeds by description; it only uses argument

¹ I add here that the categories, as I describe them, correspond to Spinoza's *communes notiones*. Also, I take the opportunity of correcting a mistake in the little book. Page 52, last line, read: 'he does not mean that in the usual sense of the word I perceive, etc'.

in order to help you to see the facts, just as a botanist uses a microscope. Mr. Broad has a passion for argument, naturally enough as he does it so well, but I dislike it, even in Mr. Broad. The passage he quotes from A. I., 19, is not an argument, but a mere restatement of what was said before. The fact is (as I see it), that when I am describing or watching a mental act, that act is enjoyed along with the other enjoyments then existent, say the act of description, but it is enjoyed as part of the whole mind and not as something distinct from the mind. I recall the 'great saying' I quoted from Spinoza about Paul's idea of Peter. I may be wrong in the way I see the fact;¹ but if they inscribe on my cinerary urn in the crematorium, *Erravit cum Spinoza*, I am well content. Remember, too, that you have the same internal complexity in the contemplated; as when the larger fact of the peace includes the smaller fact of the break-up of Austria.

In what he writes of introspection (M., 132), Mr. Broad has a little misunderstood. When I contrasted dissected mental acts with blurred ones, I was not raising the point that Mr. Stout discusses early in his *An. Psych.*, about whether you can analyse mental states. I had been saying that whenever I express my mental condition, when I merely say I feel cold, or say ugh!, I am really practising introspection. But the name is commonly used only when I am describing a dissected state, and what I wanted to say was that psychological introspection only means describing that state, when it is done for scientific and not for morbid, practical purposes. And I was contending that you describe the mental act using the object of it as an indirect means, and that the object itself is not introspected, no, not even if you are observing an image. Of course you may say if you choose that images and sensations are introspected, but then you must say that physics is an introspective science.

In dealing with my complex treatment of memory and mental space-time Mr. Broad has been perfectly clear and faithful. The mental condition at any moment with its memories and expectations is as Mr. Broad says for me a perspective of the mind with its space-time. In fact it was through the mental perspectives as I describe them that I came to the physical perspectives as I describe them. Here is another self-revelation which may damn me! But I have nothing to add; apart from the points already raised. The sole question is whether the 'present self' is merely an

¹ And in my interpretation of Spinoza. Perhaps I may provoke someone to discuss the matter.

artificial selection, or "a natural unit" (M., 136); and that is a question of description.

As to the easier conception of contemplation (that is the contemplated) two difficulties are raised, one of which I can easily remove. It occurs on M., 137. Something is behind my back which I do not see. It is for me not compresent with any sight of it, for there is no seeing evoked by it. But since everything is in some way compresent with everything, the object behind my back affects my brain though it does not make me think. Mr. Broad urges that then a set of motions possessing the qualities q_n, q_{n-1} , etc., may be modified without modifying q_n . But I should say the brain when it does not actually think possesses only q_{n-1} , etc., movements. The precise motions needed for q_n have not been set agoing. We say the brain has the quality of thought because the appropriate movements arise on occasion sufficient. But in the interval the only motions are of the lower order (see the account of permanent secondary qualities, A. II., 60). The brain is then unconscious.

The other and harder matter is the doctrine that when I imagine there is before me an appropriate object in the external world. This perplexes Mr. Broad, though it seems to me quite simple. I assume for the moment that the image is an exact reproduction, say in memory, which of course it never is in fact. When the object is there actually present to the senses it acts on me causally and produces in me a certain mental reaction. If for some reason the same mental movement recurs I have the external object before me, and if it is a remembered object, the real object which I remember. Mr. Broad asks why this must be so, and he sets out (M., 140) the premises which are implied in the notion that it is so. If I were in the habit of arguing I should say I had argued from these premises, for the statement of which I am grateful to Mr. Broad. As a matter of fact, what I do is to interpret images in the light of what I learn from perception, as Mr. Gregory sees in his very interesting article in the July number on 'Realism and Imagination'. It is no matter how the mental act arises, whether by causal action of the object or from a determination of blood in the brain. Given the appropriate mental act, there is the object. Mr. Broad's illustration of the keys and the locks, which he uses against me, really helps me. A key may exist without a lock to open; but if there is no lock to open, the key is a piece of iron of a certain shape but it is not a *key*. To be a key it must be a key to a lock; it must be for use. Now the mental act is a key not only for use, but in use: it has an

object. You may have a dog without a mind to see it, but you cannot have the sight of a dog without the dog. As a bare matter of fact, there is the knowing of a dog in imaging it. If I have interpreted the perception of the dog aright, then the consequence for imaging follows at once. (Of course, if the American realists are right, there is no imaging distinct from the image, but the image still has the same status as the percept. This is, however, part of the big issue of which I am at present keeping clear.)

I am accustomed to compare this apprehension of a real object when it is not present to the senses to turning round in order to see it. When the stimulus from the blood sets my enjoyment into the dog attitude, that is like turning me round to see a dog that is really present. I also illustrate from the preparation of an animal for its prey. I think Mr. Broad's unwillingness to accept this illustration (M., 140) comes merely from not distinguishing general objects suitable to general attitudes and specified objects with a specified attitude. The cat may treat a moving bit of dead leaf like a mouse, but that is because he uses towards the leaf only the general scheme of 'a thing to catch'; in other words he is playing. When we think of 'something or other' we are in the most diagrammatic attitude possible, but it is appropriate to the diagrammatic object.

One word in conclusion as to the relation of compresence to appropriateness. That last name is a description rather of the terms in the relation than of the relation itself. Still, as a relation it is the form which compresence assumes in all organic responses. When the one term is a mental act you have the relation of knowing. Now I think we could take this appropriateness-relation and extend it downwards and then we should see that the causal relation is really a kind of 'appropriateness'. As we go down lower and lower in the scale, the selectiveness diminishes, though it remains, until in the end appropriateness sinks into nothing more than bare joint existence of the related things within the continuum of S-T. Point-instants respond appropriately to point-instants, but there is so little to them that the whole of them practically is involved in the compresence. (This remark refers to Mr. Broad's doubts on p. 140.)

So far I have been supposing images to be faithful. When we come to illusory images we have to introduce the idea that the mind imputes characters to its objects, which indeed it does in ordinary perception. The principle is simple enough, as Mr. Broad sees (M., 143). Let large letters stand for an object and small ones for the appropriate mental

attitude. Then if an object AB is present and excites the *ab*, and if for some reason, complication, association, mere accidental internal excitement, etc., I am in the attitude *abc*, *c* being in close connexion with *ab*, then instead of apprehending AB, I apprehend ABC. This is a mere consequence of the general principle that attitude implies the appropriate object. Illusory appearance results from the substitution for the ideal supplement to a present object of another. I say then that the illusory object is one all whose materials and the mode of their combination are found in the real world, and that the unreality of the whole comes about from the interference of the mind, which itself is one of the realities of the world.¹

Mr. Broad, however, does find a difficulty in the application of this doctrine to illusory sensations, and I will try to remove it. I take the grey patch which I see green on a red ground. I intuit the contour and extent of the patch, and this supplies me with the element of singularity in the sensum, for S-T individuates. Owing to the field of red, the part of the retina corresponding to the grey patch responds in the way appropriate to green. The green which I thus see is real green somewhere in the world, say in the grass. Such greenness occurs in the real world in a determinate contour—that is the way universals are found. Accordingly the actual intuited contour is seen green. The actual grey of the patch does not affect the eye as grey, and its place is taken by the green 'transferred' from elsewhere. The intuited contour takes the place of the nose in the familiar illusion of feeling the nose double; greenness takes the place of doubleness in that experiment. The only difference is that the doubleness is felt and the greenness seen. Mr. Broad would, I imagine, find no difficulty if the green were supplied in idea. But the conditions are such that the attitude induced in the eye is sensory in this case and not merely idea. The patch of grey does not of course become green, but I see it so. Squinting is the best analogy I can find, because in squinting in the classical experiment I quote (A. II., 215), the two pots are seen to overlap.

¹ Imputation in this sense is something quite different from apprehending truth and goodness and beauty, though all apprehension of beauty involves imputation to the object. I do not raise here the question of tertiary qualities, which Mr. Dawes Hicks, who agrees with me in the main in the view to be taken of knowing, raises in his criticism in the April *Hibbert*. I wish I were able to deal in full with this valuable criticism (with a very skilful summary of the book) and with Mr. Gregory's article before mentioned. But I find Mr. Broad a sufficient handful for one occasion.

As to my difference with Mr. Stout (M., 141) that blue spectacles are not on the same footing as the lens of the eye, I remain unconvinced and obstinate. Of course the blue spectacles might be a part of my organ of vision. In that case, except for adaptation, I should see things blue, and see them wrong. Nature has secured for us approximately achromatic eyes in order that we may not make this mistake. With imperfect eyes we do make such mistakes, which thus are illusions of sense. However, the question is not whether we can consider the spectacles a part of our eyes, but whether they are so. Mr. Broad says we can by appropriate means see our eyes as much as the spectacles. But can we by any contrivance see our lenses, as engaged in the act of seeing? This fact that we do not see our eyes, while we do touch our hands, has a bearing on the theory of space-perception (A. II., 170).

With regard to the very interesting remainder of Mr. Broad's article, I must be brief. As to C, "the hierarchy of qualities," I do not think I can add anything new, and I should have to repeat myself inordinately. I can only suggest two things: (i) that in place of 'must' and 'could not' we should read 'do' and 'do not'. It is all a question of fact and description, and of whether the facts as described fit in with the theory as a whole; (ii) that in settling whether life has a status like that of red or only means certain ways of moving or other changes and nothing else, we cannot put aside the evidence of the organic and kinæsthetic sensations. I think that in them you catch life as a quality. (Anyhow I am disposed to think that these sensations are destined to play a larger part in metaphysics than hitherto, whether my reading of them is right or wrong.) But the whole of Mr. Broad's section C has to be considered carefully. And I must take his remarks on Universals also (section D) *ad avizandum*. I attach great importance to that topic, but am not prepared at present with anything further.

In section E upon deity, Mr. Broad expresses some doubt whether I mean my 'theology' to be taken seriously, and seems inclined to regard my fourth Book (as someone said, perhaps it was Mr. Broad himself), as the comedy completing the three previous tragic Books. I can assure him that I am very serious. These three pages are full of Mr. Broad's fun. But the topic is a dangerous one. As Bailie Nicol Jarvie said when he and his companion were passing the hill of the fairies: "there's nae gude in speaking ill o' the laird within his ain bounds". I have only a few corrections to make.

(i) Mr. Broad deserts his scientific sobriety for a moment to 'parody' my 'theology' (M., 28): "God never is, but always to exist, and There is no God, but gods". This is not quite exact. What I say is that God as actually possessing deity does not exist but is an ideal, is always becoming; but God as the whole Universe tending towards deity does exist. The same inexactness is repeated (p. 148). Deity is a quality and God a being. Actual God is the forecast and as it were divining of ideal God. I know these things are hard to make quite plain, and I daresay I have not succeeded. (ii) Mr. Broad's suggestion of actual gods I have myself mentioned. I identify them with 'angels' (A. II., 346, 365). But they would make no difference to the doctrine for we do not know them. (iii) A much more important point: I do not say as Mr. Broad thinks that we "ought" to regard the new qualities produced by S-T with religious reverence; but that religious reverence is the way we do regard such a next higher quality—no ought but a fact, if rightly described.

But I make no further remarks upon this matter, because Mr. Broad is not here asking for explanation but making legitimate criticism. I only observe that I have added something to the subject in the little piece on Spinoza mentioned before in the light of some questions raised at a meeting of the Aristotelian Society and kindly reported to me.

I have done my best to supply explanations, but I fear I may have sometimes appeared to be repeating what I had said already. I hope it may help a little towards forming a judgment on my work. At any rate, it has done me good to try to do what Mr. Broad has done me the honour of asking me to do. This is an open letter to Mr. Broad, and the pleasure of writing a letter depends on the person to whom it is addressed, and I have liked writing to Mr. Broad.