

Helmholtz for the later one which they prefer. I miss in the Editor's remarks (as in all English writings upholding the same view) any attempt at explicit proof that the earlier date is impossible, and that sensations cannot come with any apparent bigness when they first appear. May not the supposed impossibility be rather an assumption and a prejudice, due to uncriticised tradition? If there be definite reasons for it in the Editor's mind, I hope sincerely that he will publish them without delay. But if, on the contrary, a mere dim bigness *can* appear in all our first sensations, then the date of its appearance is most probably then; for discriminations, associations and selections among the various bignesses, occurring later on, will perfectly explain (as I have tried to show) how the definitive perception of real outer space and of the bodies in it grows up in the mind. Eye-experience, touch-experience and muscular experience go on abreast in this evolution, and their several objects grow intimately identified with each other. But I fail to see in this fact any reason for that *dependence* of the visual space-feelings “on a tactile base,” such as my critic in his last paragraph seems to find. One who asks a blind person to compare pasteboard angles and the directions of their sides with each other, and who observes the extraordinary inferiority of his tactile perceptions to our visual ones, will be very loth to believe that the latter have the former for their base.

I am at a loss to know who the Editor means by the theorists (“space-theorists generally,” he calls them) who commit the mistake of “seeking for an extension that is extension of nothing at all”. Certainly this mistake cannot be imputed to anyone who, like myself, holds extension to be coeval with sensation. The matter of the sensation must always be there to fill the extension felt. The extension is of the warmth, the noise, the blue luminosity, the contact, the muscular mass contracting, or whatever else the phenomenon may be.

Still other points do I find obscure in the Editor's remarks—obscure, I am sure, from no other reason but the brevity to which he has confined them. May he be enabled soon to set them forth at fairer length!

II. By JAMES WARD.

Though on the first appearance of the Editor's criticism of the theory of space-perception upheld by Prof. James and myself I did not fail to take his strictures duly to heart, it seemed then better to leave the reply to Prof. James as one not only more able than myself to take up the cudgels in its behalf, but as one also with more claim to reply in this place; inasmuch as the preceding volume (xii.) of *MIND* is adorned by his long and masterly expositions of the theory. Moreover, I had then some hopes of following suit on my own account with a new state-

ment of the case thus ably propounded by my "ally" at that other Cambridge over the water. But *Dis aliter visum*, and my one chance seems now or never.

I propose then, first of all, to clear up one or two misunderstandings of my positions as put by the Editor; and afterwards, in the course of an examination of his theory, to make my own standpoint plainer.

To begin, I have certainly not consciously "followed the German lead in this matter" (p. 422). If we divide psychologists as regards this question into two camps—let us say, for brevity, Intensivists and Extensivists—then both Herbart and Lotze will be on the Editor's side and not on mine. Though I have used Lotze's phrase "local sign," and owe a great deal to its suggestiveness, yet the sense in which I have used it is one that he would repudiate. In like manner I have been impressed by Herbart's doctrine of presentational series and the interweaving of such series; but I have long seen the hopelessness of attempting to construct space by means of them, although they help us materially in trying to understand the intimate blending of the spatial elements implied in that almost instinctive localisation or projection of impressions to which I have referred (*Encyc. Brit.*, p. 53b, p. 55a *fn.*). The expositions of Prof. Bain and Mr. Spencer are, I take it, a great advance on Herbart, and my own views have resulted from pondering over these—pondering over them, no doubt, in the light of Herbart and Lotze. In particular, that one sentence of J. S. Mill's, which I have quoted (p. 53b, *note*), "The idea of space is at bottom one of time," forced me very reluctantly to forsake the Intensivist side.

On the Editor's view it is essential to a psychological explanation of Space to recognise the historical priority of the experience of body as resisting: with this intensity to start from and to work with, he believes that other intensities may gradually constitute it into Body as extended. He therefore finds it a fatal objection to my well-meant endeavours that I have "completely reversed the order of explanation" which he maintains "to be the natural and effective one". I agree with the Editor not only as to the importance of right order in what we might perhaps call psychogeny, as in all genetic sciences; but I agree with him, moreover, in the particular case:—the perception of body as resisting is, if anything, more fundamental than the perception of body as extended. But there is really nothing in my exposition incompatible with these admissions. Having to deal with three senses of perception, *viz.* (1) the recognition of an impression, (2) the localisation of an impression, (3) what I have called "the intuition of a thing," I had to deal with them in some order; and the order in which I have now mentioned them seemed the best. Still I have not omitted to insist at the outset that these are not three distinct stages, and that their actual separation is impossible (*Encyc. Brit.*, p. 52b). Under

the second head I have never treated of “an extension that is an extension of nothing at all” (p. 422), but of the localisation or projection of impressions, and have referred to the body as “probably affording our earliest lesson in spatial perception”. I have also (*Encyc. Brit.*, p. 54a *fn.*) very explicitly, but of necessity very briefly, exposed the blunder of assuming that space is “an extension that is an extension of nothing at all,” to repeat the Editor’s words; or, as I have put it, that space is “in some sort presented apart from the localisation, projection or reference of impressions to such space”. Finally, when treating of the complete fact of intuition, I have said: “Here our properly motor presentations or ‘feelings of effort’ come *speciallly* into play. They are not entirely absent in those movements of exploration by which we attain a knowledge of space; but it is when these movements are definitely resisted, or are only possible by increased effort, that we reach the full meaning of body as that which occupies space. . . . Things are only presented when touch is accompanied by pressure. . . . It is of more than psychological interest to remark how the primordial factor in materiality is thus due to the projection of a subjectively determined reaction to that action of a not-self on which sense-impressions depend.” And so far from “keeping back” all this till the later stage, “at which an account of substantiality might be given,” I have mentioned it first of all among the constituents of what is “real”. The exact drift of the censure administered to me for my very inadequate treatment of substantiality is not clear to me. But, lest the Editor or his readers should suppose that I identify “body as resisting” with substance; it should be said that, according to my view, filling space is but *one* property of what Locke called material substance, and that a psychological account of substantiality has to show how this “primordial,” “invariable,” “universally present” property attains that supremacy which was to Locke such a puzzle. Had I confused the occupation of space with the substantiality, to which I refer last; or had I maintained that we gain any knowledge of space before or apart from our experience of resistance; I should then have been guilty of the *ὑστερον πρότερον* I am charged withal. All the same, I confess that if it had occurred to me that so much depended on perfect clearness on this point, I should have striven to be yet more explicit. And this admission brings me to the Editor’s own doctrine, on which I will venture a few remarks.

What I take to be the Editor’s position is this:—We have three kinds of data—(1) Certain intensities, *viz.* (*a*) Muscular sense “understood in its purity as ‘sense of effort’”: to ‘feelings of movements’ he holds it right to object, “since ‘movement’ plainly presupposes ‘space’”; (*b*) tactile and ocular sensations, and possibly others not *speciallly* mentioned. (2) “Certain laws of intellectual grouping under which the sense-elements” [*i.e.*, I presume, the preceding intensities] “are supposed to be worked

up"; or, failing these, some "psychological operation" of "aggregation" not further described. (3) The consciousness of a not-self as opposed to self, to which we gradually attain through the experience of resisted muscular activity. Given these data, the problem is: "How a variety of *intensive* elements can come to assume," or be "transformed" into, or be "got to acquire, the extensive character".

Now, interesting as it might be to see at once how this formidable problem is solved, it will be more in order first to examine the account given of the materials involved in it. To begin, it is to be noted that nothing is said of what I have called Extensivity, and what Prof. James, for reasons which I cannot divine, prefers to call Extensiveness. The fact is, the Editor regards this conception as what Germans happily style a *Nothbegriff*, a sort of jury-mast that betrays at once our distress and our "psychological impotence". This is a point to challenge. Apart altogether from any "derivation" of space, there is a respectable body of evidence for the existence of this characteristic of all sensation; evidence, too, that shows it to be in all respects co-ordinate with intensity and protensity. If extensivity had never been heard of except in connexion with theories of spatial perception, it might be open to more suspicion; but as things are, it cannot be simply put aside as "an assumption that is perilously near to the very fact of extension to be explained". There are, as regards the data of the problem, two things to do, and the Editor has done neither of them: the one is to examine this fact of extensivity; and the other is to analyse the perception of space, as it now is, to see what elements it logically implies. Anybody who will seriously attempt this inquiry will find it hard to get rid of extensivity, whatever may be his views about space; and he will find too that extension and extensivity differ after the same manner as extension and the perception of extension,—which last, I presume, the Editor does not regard as extended, albeit it is the fact to be explained. Psychologists who, like the Editor, adopt the intensivist doctrine, assume that those intensive "elements," which come to be grouped according to intellectual laws, are from the first, in some way which is never made clear, merely detached particulars:—feelings of effort, k_1, k_2, k_3, \dots , ocular sensations $r, g, y, b, \&c.$, and tactual sensations in like manner. To this atomistic psychology there are the gravest objections, both rational and empirical, both psychological and psychophysical. I have handled this matter at comparative length in an earlier volume of MIND (viii. 478-9), as well as in the article now in question (*Encyc. Brit.*, pp. 45b, 46), and I cannot see that it is worth while to criticise my endeavour to explain spatial perception if this more fundamental topic is left aside. The definiteness and detachment of sensations which make them possible elements for intellectual grouping belong to a late, not an early, stage in mental development; and they presuppose, unless we cheat ourselves

with metaphors, an underlying continuity which is certainly not a coexistence-in-time brought about “through repetition, reversal, &c.”. That this presentation-continuum or *totum objectivum* is not itself extension is obvious from the fact that it is presentational. To identify it with extension would be to connect it either with the whole of space or with some definite part of space; to regard it as having no proper unity and as capable of indefinite subdivision; and to allow either that material bodies could penetrate it or be prevented from penetrating by some repulsive force. Though psychologically distinct from intensity, it still remains psychical for all the reasons that make intensity so. We do not feel perilously near to confounding the physical and the psychical when we talk of “the mental stream flowing on in time,” or allow that psychical intensities and complexities increase and decrease with physical intensities and complexities. But as to the question whether extensity contains already all that is implied in the *idea* of extension, this can only be answered by analysing that idea as it is now; and I venture to say that every theory of spatial perception is worthless that leaves such analysis out of account. It must suffice here to note two points:—Space implies (1) a co-existent continuity of positions, which as such can only be distinguished by qualitative differences, and (2) a characteristic relation between position and position, which is not merely distinctness but distance, apartness. Now extensity gives us only the ground for the first of these, so that, as it seems to me, without muscular movements *in conjunction with* the qualitative differences that make positions distinguishable, we should never know those positions as distant. A comparison of our organic sensations with our active touches would fully bear this out.

But the Editor, as we have seen, expressly omits muscular movements as distinct from sense of effort, because ‘movement’ plainly presupposes space. Movement, past all question, presupposes space, but *feelings* of movement, in the sense of auxilio-motor objects, psychically regarded, occur only in succession, and so far implicate nothing but time. A theory of space in which these are either omitted or identified with mere feelings of effort or resistance is certainly needlessly crippled. It is the necessarily temporal character of these presentations, taken *along with* the primitive and essential coexistence of our local signs, that to my thinking first makes spatial perception possible. I say “primitive and essential” because a coexistence that is derived from “repetition, reversal, &c.,” after the fashion of Herbart or Spencer, seems to me to presuppose that very extensity it is meant to supersede; in other words, the perception of time itself does not seem possible without a presentation-continuum characterised by extensity. Extensity, protensity and intensity, in fact, seem as inseparable psychically as are space, time and motion physically. But to return at once from what might easily become a lengthy digression. Two feelings of movement, then, of the same series cannot

be coexistent, and their order is invariable. Our feeling of being embodied, on the other hand, is always an extensive feeling, and the local signs into which it may be more and more differentiated are always in some sort coexistent and invariable. The one affords us the relation of distance, by itself and primarily a fact of time; the other affords us the places or positions which must be not only distant but coexistent and distinct.

And now let us try to see how the problem is solved without either of these; but for my own part, I must confess the more I ponder it the less I see. It is more than likely, therefore, that the peculiar merit of the solution has escaped me. If I venture, spite of the obscurity in which I find myself, to urge difficulties, it is only in the hope that their statement will ensure their removal. All seems to turn on muscular efforts, in themselves intensive, taking the lead and securing a 'something' presently to become extended. Thus, and thus only, it is held, can the difficulty be surmounted of "construing as extension" the various time-clusters, also in themselves intensive, that are had in connexion with that resisted muscular activity. It is almost as if one said: You cannot actually have form till you have stuff to be formed, and thence concluded that when the stuff is secured it can be "transformed" or "got to acquire" or "can come to assume" the requisite "character" without more ado. Having got his object = obstacle, the Editor seems to leave all the rest to—well, I suppose we had better say—mental chemistry; since that is at least a respectable phrase. Laws of intellectual grouping are indeed mentioned among the "usual data"; but, to judge from the respect with which Kant's analysis is spoken of, it is doubtful whether the "psychological operation" here intended is intellectual after all. But, though we are provided with no details concerning this operation, the language in which the process is referred to is remarkable. We are not shown how the presentation or intuition of Extended Body emerges as a psychological fact: we are only told that—by "reference to," or on the "suggestion" of, this basis of object = obstacle—experiences in themselves intensive "*begin to appear as*" or to be "*construed as*" or to "*be interpreted as*" Extended Body. Such language, it seems to me, implies the independent possession of the very thing to be constructed or derived, and begs the question a thousand times more than any admission of extensity as a factor can do. The problem is not one that can be solved by an '*as*': that very innocent-looking particle carries us beyond "the psychological ground" to which the Editor very rightly intends to confine the question.

But, now, why is that basis of object = obstacle after all so suggestive? "Intensive experiences continue always to be referred to the subjective mental stream" we are told; and this sense of effort is an intensive experience like the rest, till it is "construed as external object". "The first beginning must

take place somehow;" it is most "natural and effective" to say that it took place thus. To me this seems like cutting the knot, not untying it. In much the same way as Lotze showed the insufficiency of the Herbartian "repetition reversal, &c.," to afford spatial coexistence,—I mean by citing the case of sounds; the insufficiency of merely intensive resistance to "suggest a cleft in conscious experience" might be shown, *viz.*, by citing the case of "mental" efforts. For these are psychologically—so far as I see—quite on a parallel with muscular effort, when that is regarded merely as intensive. Surely the thing to be constructed slips in here ready-made; at least, as far as I understand the Editor's exposition, it does so. He tells us in one place (p. 423) that "we first, through simple and direct effort put forth, get some kind of vague notion of body as resisting". And elsewhere (p. 421) he apologises for using 'external,' although he does not mean external and only uses it "for the sake of definiteness". Till the obstacle is extended it is not *body* as resisting; and till it is both external and extended it is not in any sense a not-self. Moreover, self is extended and must be known as such before not-self can be so known. But it is really a hard case, for do but grant *body* as resisting in ever so "vague," "shadowy" and "indeterminate" a way, and all the rest will soon follow: the cleft "will be widened and defined," and we shall very soon find ourselves distinguishing "this and that extensively within such body". I remember as a child being much disappointed that I could not keep one leg in the air long enough to get the other up before the first came down. A very short time would have sufficed, and then, repeating the process, I might have mounted to the stars. But, alas! simple though it seemed, the feat was impossible.

NOTE.—One of the foregoing papers has come to hand too late for it to be possible now to attempt any rejoinder to the series of observations which (beginning with Dr. E. Montgomery's in last No.) have been called forth by my remarks on "The Psychological Theory of Extension," in No. 51. Though I took the liberty of making reference to the different writers who have now replied, it was only with the view of giving more point to my own remarks: certainly, there was no thought of assuming, with such passing references, to sit in judgment on the elaborate work done by the writers, in *MIND* or elsewhere, on the subject. There is nothing, however, to regret in the result; quite the contrary. While occasion has been taken by more than one of the writers to give important elucidation of views previously published, it seems clear from all the replies that the original remarks needed much more development, or at least better expression, than they succeeded in getting at the time. As soon as circumstances (which have not, for a good while past, been favourable to sustained effort) may permit, another trial will be made to justify the position taken up in No. 51; and it may then be possible to do more justice to the work of the writers.

EDITOR.