

Then it is remarked, "To be conceived at all, a thing must be conceived as having attributes" (p. 47); and yet the author admits that it is impossible to assign any attribute to space (p. 48). So that it would appear from the last impossibility that space is *not* a thing (or entity).

It is added, "All entities, which we actually know as such, are limited" (p. 48). But, on the other hand, it is allowed that, "Of space and time we cannot assert either limitation or the absence of limitation" (p. 48).

It is observed also as follows:—"Nor are space and time unthinkable as entities, only from the absence of attributes" (p. 48). This would involve the conclusion apparently that that is considered to be an entity which is absolutely "*unthinkable*" as such.

Must there not be some flaw here, and some solution possible?

I have to propose—and this may appear very bold at first sight—that space is a non-entity. I must explain my meaning more fully. The first question or difficulty will be, How can we conceive of space (a void) or even talk of it, if it be a non-entity or nothing? In fact, on p. 177 is the remark, "Nothing cannot become an object of consciousness."

In reply to this, I would venture to suggest that under certain conditions, nothing can become an object of consciousness, viz. *by contrast with something*. We can be conscious of an absence. Darkness can become an object of consciousness by contrast with light. So space in itself—which I contend is nothing—is an object of consciousness¹ by contrast with matter.

We consider space to be an entity, I fancy, because of our experience with palpable air, &c., which (for convenience, but inaccurately) is called space. Space *per se*, an absolute void, we have no experience of. We measure all so-called spaces with matter—standards made of matter. We estimate how much solid matter is absent in a room (for instance), which we call its "volume." Mathematical lines are unconsciously figured as material no doubt from our habit of drawing them; and the spaces of triangles, &c., are usually filled out with solid matter.

It would be ridiculous (as it seems) to ask what would happen if a void disappeared. It cannot disappear because it is *already* nothing.

In regard to matter, we can conceive a certain volume of it, a certain volume added to that, &c.; and no doubt we cannot easily limit the conceivability thus extending to a larger volume. But we are not forced (by necessity as it were) to conceive an infinite volume of any entity or actually existing thing; and it appears that a void is excluded from the category of the unknowable, as we cannot expect to know anything about nothing.

Why do we hear of the creation of matter speculated about (as an inadequate attempt at explanation), but the creation of space regarded as absurd?² Because the first is an entity and the second is not. A non-entity cannot be supposed to be created, or it is absurd to ask the question.

One may encounter difficulties of explanation *by assuming too much to exist*—too much to explain, it appears. So I account for some of the startling contradictions supposed to exist at the basis of knowledge. What is nothing, if a void be not nothing? In order to be face to face with nothing and contrast it with something, we should not have to abolish a void, I venture to think.

Another matter seems important. On p. 34 ("First Principles") is the following, viz.:—"Did there exist nothing but an immeasurable void, explanation would be needed as much as now. There would still arise the question, How came it so? If the theory of creation by external agency be an adequate one, it would supply an answer; and its answer would be—Space was made in the same way that matter was made. But the impossibility of conceiving this is so manifest, that no one dares to assert it. For if space was created it must have been previously non-existent. The non-existence of space cannot, however, by any mental effort be imagined. . . . We are unable to conceive its absence either in the past or in the future."

¹ It appears that in order to assert an *entity* there must be a conception of non-existence as a contrast; otherwise the word "existence" would seem to have no distinct meaning. If matter be an existence, its absence (or a void) must be a non-existence. In other words, an absolute void (vacuity) is contemplated as the absence of existence.

² The author remarks of space, on p. 48, as follows:—"The only attribute which it is possible for a moment to think of as belonging to it, is that of extension; and to credit it with this implies a confusion of thought. For extension and space are convertible terms."

In regard to the commencing passage, viz. "Did there exist nothing but an immeasurable void, explanation would be needed as much as now," it might be asked, When would you be satisfied with an explanation? Explanations must finish somewhere; they finish at existences, I should fancy, and cannot extend to their absence. It is this demanding explanation perpetually, without conceived limit, that leads to the contradictions and attempts at defining nothings—as seems manifest. Extraordinary as this view taken by the author appears, it is consistent with his assumption that an absolute void is an existence or thing, whereby it is put on the same footing as matter. But observe to what this further leads.

First, the inconceivable existence of an infinite thing without attributes is assumed. Second, its non-existence cannot "by any mental effort be imagined." This means, in my view, that all attempts to imagine it *more* nothing than it is, are futile. What better definition of nothing could we have than that we cannot assert it to have "either limitation or the absence of limitation," or it is "unthinkable" as an entity "from the absence of attributes"?

Well, in this way, actual existence of something which is put on the same footing as matter seems to be made a necessity for an infinite past time; as (unlike matter in this respect) we cannot even *imagine* change here—in fact, the original creation of this thing (a void) no one dares to assert." In the same way, no one would venture to assert the creation of a mathematical line, or a mathematical plane, *i.e.* the creation of extension¹ of one, two, or three dimensions.

From the author's conclusion that space is an entity, it may be reasoned, then, that, since we must apparently have one existence for an infinite past time, we may as well have two, or include matter. Hence, with all the deference which the views as a whole in the "First Principles" demand, I would point out that in this way support is given to the idea of existence for an infinite past time (impossible to grasp fairly, as the author concedes)—which, as I contend, is not warranted by the facts.

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Christmas Island.

HAVING read with much interest the description of Christmas Island by Captain Aldrich and Mr. Lister, I have endeavoured to interpret some of the facts there given in the light of my own examination of similar islands in the Western Pacific. As pointed out by Captain Wharton, the complete casing of an island, 1200 feet in height, with coral rock is somewhat unusual. This may find its explanation in the absence of stream courses and ravines, a circumstance from which I infer that the island has not been exposed sufficiently long, since its upheaval, to the denuding agencies. When its surface has been extensively carved out by the action of running water, the old volcanic peak, which these upraised reefs envelop, will in all probability be exposed. Christmas Island, therefore, has still the early part of its story to unfold.

The three tiers of cliffs evidently mark pauses in the elevation. As they appear to decrease in height with the ascent, it would seem that older lines of cliffs on the upper slopes of the island have been removed to a great extent by denudation. The principal features of the movement of upheaval appear to resemble those of which similar upraised coral islands give evidence in the West Indies, Western Pacific, and other regions of elevated coral reefs. Protracted elevatory movements of from 100 to 300 feet are separated by long pauses, during which cliffs are worn back by the waves, and the reefs grow seaward: hence the terraced profiles of these islands. I have pointed out that in the Solomon Group these protracted movements consist of a succession of small upheavals of usually 5 or 6 feet at a time.

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A Mechanical Cause of the Lamination of Sandstone not hitherto noticed.

THE lamination of sedimentary rocks is usually attributed to the successive deposition of sediment of varying degrees of fineness or coarseness. Currents of water have a selective action

¹ The author remarks that "Extension and space are convertible terms" (p. 48). I may express my agreement with the author as to the inadequacy of the theory of the "creation" of matter, as an explanation.