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A table of contents for *Bibliotheca Sacra* can be found here:

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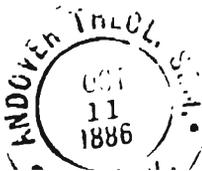
ARTICLE I.

IS TIME A REALITY? AN EXAMINATION OF  
PROFESSOR BOWNE'S DOCTRINE OF TIME.

BY THE REV. PROFESSOR C. M. MEAD, PH.D., BERLIN, GERMANY.

THERE must always be a fascination for metaphysicians, and even for ordinary men of thoughtful mind, in speculating on the problems of space and time. Apparently the most certain and necessary things, they grow more puzzling and evanescent the more one attempts to analyze the conceptions; so that, in fact, there is nothing respecting which more contradictory ideas have been held. In particular, it is remarkable that in some aspects of the question the drift of metaphysical speculation is quite contradictory of the popular impressions. Some years ago I ventured to make an apology for the popular conception of eternity, as being endless time, in opposition to the ordinary metaphysical doctrine that eternity is timelessness (*The Metaphysical Idea of Eternity*, in the *New Englander* for 1875). It was there shown not only that the metaphysical conceptions are no clearer and more self-consistent than the popular one, but are in hopeless conflict with one another. Having recently examined for the first time Professor Bowne's treatment of the conception of time in his *Metaphysics*, I find myself tempted to make some comments on his doctrine. His writings in general are so admirably fresh and able, and his views so sensible and sound, that one cannot like to disagree with

Vol. XLIII. No. 172.—Oct. 1886. 40



him. His crushing demolition of Herbert Spencer's Philosophy and his Studies in Theism are so full of masculine vigor and convincing logic that one comes to his later work with a prepossession in its favor. It is, therefore, a real disappointment not to be able to accede to his theory of the notion of time.

Professor Bowne's general doctrine is that time is not an objective reality, nor a relation of objective realities, but a purely subjective conception. It is "purely a product of our thinking" (p. 237). This conclusion, so contrary to the unsophisticated impressions of men, he reaches by exhibiting the contradictions and absurdities which result from attempting to carry out the vulgar conception of the objective reality of time. This is not a very difficult task. "All our representations of time are images borrowed from space, and all alike contain contradictions of the time-idea" (p. 218). Thus, if we conceive time under the form of an endless straight line, "the conception fails to fit, for the points of such a line co-exist, while of the time-line only the present point exists." Or if we think of time as a flowing point describing a straight line, "we implicitly assume a space through which the point moves" (*ibid.*). So, whether time itself is conceived as flowing, or as that through which events flow, in either case, when we carefully analyze the conception, we find that we cannot carry it out without running into self-contradictions. If time as a whole is regarded as an existent reality, embracing past, present, and future, and things are conceived as flowing through it, then "there would be nothing in this view to forbid the thought that things might co-exist at different points of the temporal sequence. There would also be nothing in it to forbid the conception of a being which should fill out the totality of time, as the omnipresent fills out space, and for whose thought the past and the future should alike co-exist. Thus quite unexpectedly we come down to the notion of the eternal now" (p. 220). But if we abandon this conception, as we

must if we wish to hold the common view, nothing remains but to say that only the present time is real. But here we at once are confronted with the difficulty that "the present has no duration, and is not time at all. It is but the plane which, without thickness, divides past and future. Time, then, is not made up of past, present, and future, but of past and future only; and, as these do not exist, time itself cannot exist" (*ibid.*). The difficulty of making time a reality is greater than so to conceive space (which Professor Bowne also holds to be purely subjective); for we can regard space as made up of parts, since the several parts co-exist as real; whereas in the case of time none of the several parts can be regarded as really existent (p. 221). If now we recur, in order to obviate this difficulty, to the notion that time itself flows, instead of being a fixed thing in which events flow, then the objection at once meets us that "we have a flow, that of time, which is not in time. But if this flow be out of time, why not all other flows?" (*ibid.*) And so, whichever way we turn the conception, we find ourselves unable to carry it out without confusion and self-contradiction. Time, moreover, cannot be regarded as a condition of change and activity. "Change is always an effect, and requires a cause; but no one views time as causal. . . . . When the conditions of an effect are present, there is no need of time for its realization, as if the flow of empty time could give to reality some power which it does not possess. . . . Hence in inquiring for the causes of an effect, we leave time out of the question" (p. 223). Consequently we must conclude that "the notion of time as a real existence shows itself on every hand as a congeries of contradictions, and must be given up. . . . . As a whole, time does not exist, and reality is not in time any more than it is in space" (p. 224).

Having thus shown that time is not an objective reality, Professor Bowne inquires whether the ideality of time is any more tenable. As compared with space, he finds time

not so easily shown to be purely ideal, since "we have a clear experience of the possibility of thinking and feeling apart from space," whereas "with time the case is different. It enters into our entire mental life, and cannot by any means be escaped" (pp. 224, 225). Nevertheless, having found himself compelled to deny the reality of time, he cannot but adopt some form of idealism with relation to it. He cannot, however, assent to the Eleatic doctrine of the absolute changelessness of things—the doctrine which most readily harmonizes with the non-reality of time. He adopts, rather, the Heraclitic view, that all things are in a state of change; and his conclusion is that "time depends on change" (p. 237). "In the common thought time exists as a pre-condition of change; in our view change is first, and time is but its form. It has no other reality" (p. 237). In coming to this conclusion, the author, of course, finds it necessary to affirm that change does not presuppose time. His view, in brief, is that in the case of any particular change, say from A to A', there is succession, but not time (p. 237). "We have simply a relation of cause and effect, without any admixture of time-elements" (p. 234). "That which is between A and A<sup>n</sup> is not time, but the intervening numbers of the series, and the corresponding changes" (p. 236). "Succession is not in time, and difference in time means only difference of position in the series" (*ibid.*). "Change does not, indeed, require time; but it results in a new state which excludes, and hence succeeds, its predecessor. This fact of change is basal. It is not in time, and it does not require time; but it founds time; and time is but the form of change" (p. 237). "The rate of change is the rate of time; and the cessation of change would be the cessation of time" (*ibid.*).

This is the doctrine laid down. The author's own statement and elucidation are, of course, fuller and better than this; but I have endeavored to give the doctrine as full and fair a statement as space will allow. What now shall

be our judgment? The doctrine is by no means a new one. It is the favorite doctrine of those philosophic theologians who have argued that God, because immutable, is timeless. But while we must concede the real difficulties which beset the attempt to construe the concept of time without apparent self-contradictions, we must none the less insist that equal or greater difficulties attend the effort to describe and conceive time as purely subjective. Professor Bowne's doctrine rests purely on the alleged difficulties and contradictions involved in the common conception. He does not deny that the first and natural impressions are against his view, and that he is contending for what appears to be almost a contradiction of a direct intuition. His proposition is defended purely by logical considerations: he holds that, because the common view leads one into insoluble difficulties, we must abandon it and assume that time is merely a subjective conception. It is therefore appropriate, in examining his view, to ask whether it is itself any more free from such difficulties.

1. Let us, then, first examine the proposition that change "founds time." The question needs to be considered. Which conception, that of time, or that of change, logically precedes the other? The popular impression, beyond a doubt, is that time is the prior conception. One naturally thinks that a thing cannot change unless there is time for the change, that in an indivisible moment no change is possible. The common conception of change is that a thing is *now* different from what it was *before*; but this presupposes the conception of time. Men would naturally say that it is sheer contradiction and absurdity to say that a thing is different now from what it is now—that two different states of the same thing co-exist. But, says Professor Bowne, they do not co-exist. A and A' are mutually exclusive. A becomes A'; but no time can be said to intervene between the two states; A' succeeds A, but succession does not presuppose time. To this, however, we must reply that succession does presuppose time. No

definition of the notion of succession, as here used, can avoid presupposing the conception of time. If *A'* succeeds *A*, that can mean nothing but that it comes *after* *A*; and the word "after" can be defined only in terms which imply the antecedent conception of time. If the succession in question is not temporal succession, then no meaning can be attached to it. Professor Bowne says: "The ceasing of *A* and the becoming of *A'* are the same fact seen from opposite sides. Seen from behind, it is the ceasing of *A*; seen from before, it is the becoming of *A'*" (p. 84). But the question naturally arises, what does he mean when he speaks of seeing a fact from *before* and from *behind*? What is the front side and the back side of a fact? In short, what meaning can be attached to this language at all unless the term "before" is understood in a temporal sense? If the conception of change simply means that *A* and *A'* are unlike, but that the one replaces the other, what can determine us to say that *A'* succeeds *A*, rather than *vice versa*? We thus see how the notion of time is really involved and presupposed, even when the most diligent effort is made to eliminate it. And the difficulty with our author's theory is only increased when we find him emphatically denying that *A* and *A'* are in any proper sense identical. "When one member passes into another, its being becomes the being of the other. *A* acts as long as it exists, and *A'* acts as long as it exists" (p. 92). And when the question is raised, how then *A'* can be called another form of *A* any more than of an entirely different thing *B*, the answer is that *A'* can be developed from *A*, but not from *B* (pp. 90, 94). The cow can be developed from the calf, but not from the kitten. But may not the calf be developed from the cow? What right have we to insist only on the other order? If all we know of change is that it is the unlikeness of two things, one of which can be developed from the other, where do we get the conception of order, of succession, in the relation of the two? If change consists merely in the unlikeness,

then the two may be said to be co-existent as well as successive. If, as Professor Bowne affirms, no time intervenes when A passes into A', then the two, according to all the laws of thought and of language, do co-exist. To say that they are successive, and yet not temporally successive, is to use language that conveys no intelligible meaning. Professor Bowne cannot avoid implying the reality of time, even while denying it. He defines "being" as "whatever can act in any way, even for the shortest time" (p. 91). Again he says, "A acts as long as it exists" (p. 92). What can be the meaning of such language, if time is not objectively real? In attempting to define *being*, he must be intending to define it as an *objective fact*, and not merely as a mental affection. Yet in the definition he implies that the existing thing *exists* and acts in *time*—not merely that it is *conceived* as existing in time. When he says that change does not require time, but "results in a new state which . . . . succeeds its predecessor" (p. 237), we have at least four words which imply that the conception of time is involved in the conception of change, and presupposed by it. First, change *results* in a state. No definition of "result" can be given which does not involve the conception of temporal succession; a resultant state is one that *follows* a pre-existent state, i. e., comes *after*, at a later *time*. Next, we are told that change results in a *new* state. "New" is antithetic to "old;" and the notion of time is inextricably involved in the conception. Unless the temporal notion is presupposed, the word has no meaning. The two states may be conceived to be *different*; but if time is not a reality, then all we can say by way of defining change is simply that a thing changes, or that two things, or two states of a thing, are different from one another; there can be no sense in calling the one *new* and the other *old*. Again, we are told that the new state *succeeds* its predecessor. That is, it comes *after* the one that goes *before* it. But if any one can tell what "after" and "before" mean, except in terms which pre-

suppose the conception of time, he will accomplish an heroic feat. It is simply impossible to speak of change without presupposing time; time is the prior conception.

The impossibility of being consistent in holding this doctrine of the subjective character of time may be still further illustrated by quotations from the chapter in question. Professor Bowne says: "Distinctions of time do not depend on any flow of absolute time, but on the flow of reality, and on the position of things in this flow. To say that there is time between distant members of the series, means only that reality changes in passing from one state to another; and the amount of time is not simply measured by the amount of change, but is nothing but the amount of change. The rate of change is the rate of time; and the cessation of change would be the cessation of time" (p. 237). Now what is meant by "the *rate* of change"? If the only objective fact in the case is simply change, or a variety of changes, whence comes the notion of a *rate*? What is the notion? No meaning can be attached to it except that it denotes the amount of change taking place in a certain *time*. If one train moves forty miles in an hour, and another only twenty, the rate of motion in the former is twice as great as in the other; but there can be no comparing of the two unless the notion of time is presupposed. If time is but a figment of the mind, how can it be said that there is any rate in the *motion*? Let it be supposed that one perceives the two trains in motion. They both start from the same point and reach the same terminus. That is the only objective fact, according to the theory in question. According to it we have no right to say that they actually start at the same *time*, or that the one reaches its destination *before* the other; for such expressions presuppose the objective reality of time. We have no right to speak of the rate of the two motions at all; for the two motions are the same. To say that the one is more *rapid* than the other, has no sense, except as we mean that the same distance is traversed in

a shorter *time*; but this makes time a "pre-condition" of our judgment. The idea of a *rate* of motion, or a *rate* of change of any kind, can have no meaning and no existence, unless the mind has *first* a conception of time which serves as a measure of the rate. This inconsistency in Professor Bowne's treatise is not relieved, but rather emphasized, by his utterance on the next page. "A world of thinking beings only would have no common time-measure; and each one would estimate time by the changes in his own consciousness. Psychologic time, in distinction from objective time, would alone exist. The impossibility of agreement in such a case is shown by the different estimates we form of time according to our circumstances. But the co-existence of thinking beings with an independent reality, which is also in incessant change, enables them to compare their individual times with a common time-piece; and thus the world-process furnishes to our minds a regulator whereby to adjust our time-estimates." What does this mean? "Psychologic time, in distinction from objective time, would alone exist"? Of course it would, on the author's theory; for he has just told us that "absolute time, as an independent reality, is purely a product of our thinking." Time, therefore, can have no objective reality. It is nothing "but the subjective aspect of change or becoming" (p. 229). What, then, could ever lead to the thought of *comparing* the "individual times"? How *can* they be compared? They are compared, we are told, "with a common time-piece." But how can there be such a thing? The vulgar mind has, to be sure, no difficulty. We see the moon revolving around the earth, and we can compare this with the diurnal rotation of the earth. We can make these motions a standard of time by which we estimate also the length of time occupied by other motions or changes. But this all presupposes that these motions do really occupy time; it presupposes the reality of time. If, however, time is nothing but the subjective aspect of change; if the only objective

fact is the change itself, then all comparison of the subjective aspects by a common standard becomes impossible. A common time-piece implies, as a pre-condition, a common notion of time. Different men, in order to have a common standard, must agree that a certain motion is uniform, or that two motions have a fixed relation to each other in point of rate. But that uniformity, or that fixed relation, cannot be conceived at all,—they have no meaning, unless there is antecedently a conception of time. Uniformity of motion means only passing over equal spaces in equal *times*. Difference of rate in motion means only that two motions of equal length in space occupy unequal *times*. We cannot form these conceptions, and so cannot come to the conception of a common time-piece, unless time is presupposed as a reality. The “world-process” cannot “furnish to our minds a *regulator* wherewith to adjust our time-estimates,” unless the process itself is *regular*; and regularity in the objective process can have no meaning except there be a uniform relation to an objective *time*. Professor Bowne speaks of “the world-process” as if it were a unit which itself furnishes this unfailing regulator. But the world-process is a combination of the most diverse changes; and we get no time-piece till we have compared these changes with one another; and this comparison is impossible without the prior assumption of time as an objective reality. It is the more difficult to see how this “time-piece” is to be found, when we observe that, according to Professor Bowne, motion itself is only phenomenal, not real (p. 242). Space not being a reality, of course motion, which is conceivable only as a change of place, must also be called a mere subjective appearance. To be sure, he says that “motion is a form of change” (*ibid.*), and change he holds to be real (p. 237). The consequence would seem to be that motion also is real; but this is a question of consistency into which we need not here enter any further. At all events, he holds motion to be nothing but a subjective phenomenon, nor can he do otherwise, consist-

ently with his theory of space. But this being so, it is quite impossible to see how different persons can ever come to agree on a "common time-piece." Without it, we are told, each one would estimate time by the changes in his own consciousness. Now how is this to be remedied? Why, by finding a common time-piece in the motions which yet are themselves nothing but changes in each one's consciousness! To be sure, Professor Bowne does not here speak of *motions* as constituting the common time-piece; he goes on to speak of *change* as furnishing it. But it is notorious that it is motion, especially that of the heavenly bodies, which gives us our standard of time; and we cannot allow him to evade, in this way, the difficulty he himself has made.

That the notion of time is presupposed in that of change is furthermore shown by the fact that the opposite of change, viz., *changelessness*, implies the conception of time just as much as change does. To say that a thing does not change can mean only that it is at one *time* the same that it was at another. Professor Bowne's attempt to meet this difficulty is not successful. "The only reason for distinguishing separate times in the changeless would be the sequence of mental states in ourselves; and this sequence itself is change, and hence contrary to the hypothesis" (p. 227). Accordingly, he says, a changeless existence "simply is, and the distinction of past and future does not exist" (*ibid.*). But the fact that there is sequence in the mental states of one who affirms the changelessness of an object is not contrary to the hypothesis of the changelessness of *that object*; it is only contrary to the hypothesis of the mutability of *every thing*, including the thinking person. My judgment that a thing is to-day the same as it was yesterday, does not involve the judgment that *I am* in all respects absolutely changeless. Nor can it be said that the sequence of mental states in me is the only reason for my distinguishing separate times in the changeless; the reason is simply that the conception of time is pre-

supposed in both the conceptions of change and of changelessness. Whether any thing is strictly changeless or not, it is, of course, needless to discuss: we are here only concerned with the *conceptions*. And if, as we have seen, the conception of change presupposes that of time, equally does the conception of changelessness presuppose it. No one can write three sentences about the immutability of God without using language which implies that God exists in time, even while directly advocating the doctrine of his timelessness. Change and changelessness are conceptions contradictory of one another, but both depending on the conception of time, and having no meaning except as time is presupposed.

2. We come to the same result when we ask this question: If, as Professor Bowne affirms, change "founds time;" if "change is first, and time is but its form," what occasion is there for having the notion of time at all? How did mankind ever come to think of time, if change is the only objective reality in the case? What relation has the notion of time to that of change, that the former should be evolved from the latter? How can the notion of time be abstracted or derived from that of change, if change is not only the prior reality, but the only reality in the case? Sometimes time is affirmed to be the relation of motions to one another—the conception apparently being that a comparison of the velocity of motions yields the conception of time. But the notion of velocity presupposes that of time, since velocity means that an object moves a certain distance in a certain time; and the comparison of two velocities, of course, equally involves time as an antecedent condition of the comparison. The general phrase, relation of motions, of itself might refer only to direction in space, and not suggest the notion of time at all. As soon as we limit the term so as to give it other than a local reference, we at once presuppose time in defining velocity. But it is, if possible, still more difficult to see how the notion of time can come out of that of

change in general. Change is of quite various kinds. There are changes of form, of color, of density, of location, of chemical constitution, etc. What is the one common element in this variety of changes which not only suggests, but absolutely compels, the conception of a certain something—time—which is instinctively regarded as the necessary condition of all changes, if yet, in point of fact, change is the antecedent condition of time? If time is so unreal a thing, how should men have come so unanimously to think about it, and talk about it, and be even absolutely unable to think or talk without assuming it to be real? Time cannot be defined as an exact synonym of change; it is not the common feature of all changes; for this common feature the word “change” is enough. What possible explanation can be given of this mental phenomenon, which adds nothing to our knowledge, and seems to exist only for the sake of deluding men in general and of giving metaphysicians an opportunity to exercise their acumen? To say that time is “the subjective aspect of change” (p. 231) is to use words which mean nothing, or at least nothing to the point. The subjective aspect of change is simply the mental conception of change; it is change as viewed by the mind; if we conceive of change as really change, that is the subjective aspect of the matter. In so far as time plays a part in the conception, it takes the form that time is *not* merely the subjective aspect of change, but that the objective change itself takes place in time. And when the metaphysician tells us that this is a mistaken notion, we can only reply, That is possible; but at any rate that is what the notion *is*. The notion that things exist and change in time is as necessary and inexpugnable as that they exist or change at all. Metaphysicians have not been wanting who have declared the latter notion also to be a delusion. This too is thinkable; and very grave difficulties and contradictions can be shown to inhere in the notion of change. Professor Bowne, in the earlier part of his book, has to wrestle vigorously in order to

overcome the difficulties. We need not consider whether he is wholly successful; for we agree with him that things do change. And we presume that he agrees with us in our reason for this judgment, viz., that we perceive the changes. We must trust *some* of our faculties and intuitions, or else flounder in a boundless and fathomless sea of doubt.

But to come back to our question. If the notion of change logically precedes that of time, whence comes the latter notion at all? Professor Bowne says, "In the common thought time exists as a pre-condition of change; in our view change is first, and time is but its form" (p. 237). But this is still no answer to our question. What is meant here by "form"? This is a "space-metaphor" which sheds absolutely no light on the subject. Of what shape is this form? Does the shape correspond with the various changes, so that we really have, not one form, but numberless forms, of time? Of course no such nonsense is meant. The word, though borrowed from conceptions of space, is not intended in a spatial sense. Very well; what *is* the sense, then? To the mind change is simply change. What is meant by saying that time is the mental form of change? Since time as an objective reality is denied, "time" here must mean simply the notion of time; and the statement then is that the notion of time is the form of change. But, for one, I am utterly unable to attach any meaning to such language. Or if some meaning must be attached to it, it can be only this: that in thinking of change one cannot help thinking of time as implied in the change. But this means that time is conceived to *be* a reality—which Professor Bowne denies. The upshot of the matter, then, is that, by saying that time is the form of space, it can only be meant that time is that delusion of the mind which arises in consequence of the perception of change—the delusive notion that change cannot take place without real time as an antecedent condition of it, a delusion so imperious that it not only overmasters the think-

ing of the masses, but forces itself into the speculations of the very metaphysicians who are gigantically struggling to eject it. These phrases, "form of change," and "subjective aspect of change," as definitions of time, are mere phrases. They convey no meaning, unless it be the meaning that the universal notion which men have of time is a lying notion. If that is the meaning, it would be better to state it more plainly.

The confusion of thought unavoidable in one who undertakes to carry out a theory which is at war with our fundamental conceptions can be further illustrated in what Professor Bowne says about the *co-existence* of things. He says: "A and A<sup>n</sup>, though not separate in any absolute time, are nevertheless not co-existent; for their relations are such that the existence of either excludes the other" (p. 237). "Change is real, and change cannot be conceived without succession. In this sense the world-process is in time" (*ibid.*). How are we to understand this? A and A<sup>n</sup> are "not separate in any absolute time," yet, in the sense of succession, the world-process is in time. But what distinction is meant between *absolute* time, whose reality is wholly denied, and this time in a certain sense, which he recognizes? The *succession* which is involved in change, he is careful to say, does not mean that any time intervenes between the two states; neither do they co-exist, for this would imply time; they simply exclude one another; "one member exists to the exclusion of all the rest. Hence the other members do not exist in a non-temporal realm, but do not exist at all" (*ibid.*). Very well; this may provisionally be allowed to pass: yet the question still remains unanswered, why time in *any* sense is assumed. But a greater difficulty looms up. Our author's argument all along proceeds not only on the assumption that change precedes time in thought, but also on the assumption that the conception of time grows out of the contemplation of a *particular series* of changes. Though he holds that there is no identity between A and

A'; yet one can be developed out of the other; and so, he says, we may have a process by which A becomes A<sup>n</sup>. And this process, subjectively construed, yields the conception of time. But though no time, strictly speaking, intervenes between A and A<sup>n</sup>, yet, we are told, they do not co-exist: they succeed one another in the sense that they exclude one another. Very well; let this be imagined to be clear and satisfactory. But nothing is more patent than that our notion of time is not limited to the changes in a series represented by A . . . . A<sup>n</sup>. For we speak and think of *distinct events*, such as Professor Bowne would represent by A and B, as *succeeding* one another. We say, e. g., not only that the infant John Milton preceded the adult John Milton, but that John Milton in general lived on the earth before the recent eruption of Mt. Etna. The notion of time in the one case is just the same as in the other. The fact that the adult Milton was "developed out of" the infant Milton, whereas the eruption of Mt. Etna was in no way developed out of Milton, does not make the temporal succession in the former case any more real or clear than in the latter. If time is nothing but the subjective aspect of change, it is impossible to see why we predicate temporal succession of two events or things respecting which no one thinks of one as having been changed into the other.

But this is not all. We not only speak and think of unrelated events as succeeding one another in time; we also just as naturally speak of unrelated and distinct events as being *contemporaneous*. I may conceive of an apple as falling and a dog as barking at the same time. What "subjective aspect of change" gives me this notion of simultaneousness? The barking of the dog is not "developed out of" the falling of the apple, nor *vice versa*. The two events are *different*, and yet are associated as taking place *together*. Professor Bowne says: "The members of a space-series can co-exist, but the members of a time-series are mutually exclusive. This is the great difference be-

tween the two series; and this mutual exclusion makes it impossible ever to regard the members of a time-series as co-existent" (p. 236). Here confusion is worse confounded. What is meant by a "space-series"? Things having a causal or inherent connection with each other? Clearly not; for those most generally are successive. All the objects in a room, e. g., the chairs, the table, the books, the lamp, co-exist. They cannot be called a "space-series" in any clearly defined sense; but they certainly co-exist in every proper sense of the word, as much as the members of any space-series can be said to co-exist. But whether they form a space-series or not, the question arises, What is meant by their *co-existing*? Co-existing in time? What can this mean, if the notion of time is purely a mental product and results solely from the observation of changes in things? For change, we are told, implies the mutual exclusion of the states of the changing thing; these states cannot co-exist. The affirmation of co-existence is, therefore, inconsistent with the affirmation of change; but since time, according to our author, is *nothing* but the "form of change," co-existence is a conception which can have no application to it. Consequently the co-existence of the members of a space-series cannot, in Professor Bowne's mind, be a co-existence in time. Are these members, then, co-existent in space? This would be the obvious alternative conclusion; but, inasmuch as space also has been declared to be a purely subjective aspect of things, we are debarred from adopting it. And, indeed, the author himself expressly rejects the proposition. "Are then," he says, "all things together in space? No; they are neither together nor separate, for both of these predicates imply space, and we must not tacitly assume what we have openly denied" (p. 196). What then shall we conclude? Things are not *together* in space, but the members of a space-series (whatever that may be) do *co-exist*! Unless we are quietly to assent to a sheer contradiction, we seem to be driven back to the assumption that the co-existence

is meant in a temporal sense. But if the ideality of space is a sufficient reason for saying that things cannot be together in space, the ideality of time is an equally good reason for denying that things can co-exist in time; and, besides, time has been defined to be merely the subjective aspect of *change*, and change is declared to exclude co-existence; and consequently we are driven from this resting place. All is in confusion, then, on our author's theory; but the simple fact is, as above pointed out, that we affirm the *simultaneousness* of the events just as naturally as their *succession*, according as they appear to us simultaneous or successive. And both simultaneousness and succession are *temporal* conceptions. It is purely arbitrary to make the succession of changes to be the foundation of the notion of time. The fact that we can and do affirm that different things co-exist in time, even when they have no causal or logical connection with each other, is a sufficient disproof of the theory. It would be as sensible to say that the notion of time is the subjective aspect of simultaneity, as to say that it is the subjective aspect of change and succession. The fact that these two *opposite* notions are both equally *temporal* notions, is a demonstrative proof that the general notion of time is not derived from the perception of succession alone. The distinction above considered between space and time reminds us of Ulrici's observation that time is the *Nacheinander* (the After-one-another, the succession) of things, whereas space is the *Nebeneinander* (the Side-by-side-ness, the juxtaposition) of things (*Glauben und Wissen*, p. 106). This sounds, at first blush, very neat, if not even very profound; but a closer examination dissolves it into nothing. Things are both *nacheinander* and *nebeneinander* in time, and both *nebeneinander* and *nacheinander* in space. In time two events may be successive or simultaneous; in space two objects may be side by side, or they may stand one before the other, as when we say that the horse is before the cart. We may use the terms "before" and "together" equally

of space-relations and of time-relations, so that the two terms do not define the distinction between space and time, but must in each case be defined by that distinction.

3. The doctrine under consideration virtually gives the lie to our necessary intuitions. This has already been intimated, but needs to be more formally stated. I am aware that Professor Bowne has small respect for intuitions, which, he says, are always resorted to when argument fails. Nevertheless, even he will hardly undertake to establish everything by mere logic. There must be some ultimate truths and ultimate intuitions. We need not insist on the term "intuition." The point is to inquire, What is involved in our notion of time? When we have the notion, what is directly or implicitly affirmed? Is it a constituent part of the notion that things, as such, exist in time, or not? There is no question what the popular answer would be. Common-sense answers that events are *really* successive or simultaneous. When it is affirmed that Franklin lived after Shakespeare, but at the same time with Washington, men mean that this affirmation is true to objective reality. They mean that it is inconceivable and impossible that, in conformity with truth, it can be affirmed either that Franklin and Shakespeare were contemporaries, or that, strictly speaking, they did not exist in time at all. To say that a person did not and does not exist in time is to affirm that he exists at no time, i. e., never, i. e., not at all. Of course, one may say that all this is mere appearance, that in another mode of existence we might have no conception of temporal relations at all. Kant, replying to those who affirm the reality of change, as proving the objective reality of time, can do no better than say: "If I myself, or another being, could see myself without this condition of sense, then those same modifications which we now conceive as changes would give us a cognition in which the conception of time, and therefore also of change, would not arise at all" (*Kritik der reinen Vernunft*, § 7). This appeal to imaginary beings or imag-

inary states can hardly be called a cogent style of reasoning. It would be equally valid to say that, in another state of being, to us now quite inconceivable, we may find all these difficulties which now beset the conception of time to be entirely invalid and due only to the limitations of our earthly and sensuous constitution. Any thing can be made out by this method of dealing with metaphysical problems. J. Stuart Mill's famous conjecture that in some mode of existence two and two may seem to be five, is a good specimen of the use that may be made of it. There is no limit to the number of things which can be proved in this convenient way. Professor Bowne cannot be charged with attempting to evade difficulties by resorting to this device. But since he does not deny that he seems to be in conflict with the dictum of intuition, we must consider how he defends himself. In his chapter on space he meets the charge, which may be brought against him, that his view "makes space a delusion." And his defence is to this effect: That may be real, which exists only in the mind. Love and goodness are not unreal simply because they exist only in the free spirit. So it is found that the world of sense-qualities has no objective existence, but are "only affections of the subject." But they do not thereby become unreal and delusive. "That which exists for thoughtless common-sense as a colored object, exists for reflection as a collection of vibrating elements." So space, which the unreflecting mind regards as an objective reality, is found to be a mental principle. But it "does not become on this account an unreal delusion. All that was true of space and space-relations, and of objects in space-relations, remains true still. . . . . For the pure reason, reality exists without space-predicates." This conclusion, however, Professor Bowne affirms, is not sceptical, since it is not forced upon us against reason, but by reason. We do not deny, he says, "the truth of appearances as appearing," but "find in the appearances themselves the necessity of going

behind them to something which, though their ground, is still without the predicates of the appearances" (pp. 197-9).

Now it is, perhaps, a sufficient reply to all this to say that the same kind of argumentation will serve the cause of pure Berkeleianism. The idealist may say, "I do not deny the reality of all that is real in the world. I only say that the reality is in the mind rather than out of it. Things may *seem* to be external and material; but they are not really so. Reason has found out that this first impression is a mistaken one." But notwithstanding strong leanings to idealism, Professor Bowne can hardly accept this conclusion (pp. 456-472), though his chief reason for hesitation lies in his unwillingness to believe that God would be guilty of "such a tissue of deceit and magic" as this extreme doctrine implies. His own conclusion, however, does not fall much short of this. He adopts what he would call "phenomenalism," by which he means that "matter and material things have no ontological, but only a phenomenal, existence" (p. 466). "The world in itself, apart from mind, is simply a form of the divine energizing, and has its complete existence only in thought" (p. 472). But this seems to be so in conflict with the verdict of common-sense that he is obliged again to defend himself against the charge of holding that we are the victims of delusion. He insists on the distinction between subjectivity and delusion, and again appeals to the admitted demonstration that color, sound, etc., are not the objective facts which the popular and unsophisticated impression conceive them to be, but are only subjective states. Now, once for all, we must say that this talk about the subjectivity of the so-called secondary qualities is itself delusive and sophistical. No doubt, in the full sense, there is no such thing as taste till a tasting animal has the sensation of taste. No doubt the *sensation* of sound requires a hearing animal. No doubt the *sensation* of color is possible only to a being that has the faculty of vision. Very probably the undulatory theory of light is

correct, and the differences of color depend on the differences of undulations. Sound undoubtedly depends on the vibrations of the air. But what of all that? The possibility of correcting, or of explaining, the popular impression respecting sense-perceptions, *itself requires the assumption of a real external world*. Though color be nothing but undulations, yet there must be *something* which undulates. And this something is assumed by the physicist to be a real objective thing; his theory requires it. Furthermore, his theory assumes that there is not only a material external substance which undulates, but that the undulations are *caused by the qualities of other material substances*. The sensation of redness, for example, he explains by assuming that there is something in a given body (assumed to be objectively real) causing a particular kind of undulations, which, when they reach the eye, produce a sensation which is described as perceiving a red surface. Now to say that redness is purely subjective is a grossly mistaken inference from the scientific theory of light. The *sensation* of color is no doubt subjective; but the *cause* of that sensation is conceived to be objective. That which determines that a sensation shall be of red rather than of yellow is *in the objective thing*, not in the percipient person; and those *different qualities* in the things which produce the different sensations are still properly called the *colors* of the *things*. Color, therefore, is not purely subjective; it is no more subjective, from a scientific point of view, than it is from the popular point of view. Science has only explained somewhat of the process through which the color of the things reaches the eye. So with regard to heat. Let it be that heat is only a mode of motion, and that it is not an objective substance distinct from the body which is heated. Still it is a motion of *something*, and of something external to the percipient person. At least the scientists, whose conclusions are appealed to by the idealist or phenomenalist, so view the case. And it is impossible to take any other consistent

view of it. Common-sense may have to accept certain corrections; but those corrections are all founded on the assumption that the general impression concerning the reality of the external world is correct. Without that assumption the correction itself would be impossible. When one, therefore, from the imperfect and inaccurate impressions cherished by plain men infers that the whole notion of an external material world is illusory, he is like one who, in sawing off the limb of a tree, saws off the part he himself is sitting on. No amount of "ethical trust in God" will keep such a man from falling to the ground.

This is our first answer to our author's self-defence against the charge of holding that we are the victims of delusion. Another is, that the intuitions of time and of space are materially different from the sense-perceptions which furnish us with the conceptions of particular objects with particular definite qualities. The principle that whatever takes place must take place in time is an ultimate, general principle, not dependent on the varying impressions yielded by empirical perception. This principle *underlies* all these varying impressions and perceptions; it is as universal and necessary to the mind as the principle of causality, or of right. It is as fundamental as the principles of logic. It even underlies the logical principles themselves. Thus, e. g., the law of contradiction (or non-contradiction) is expressed by the formula, that A cannot be both A and not-A. But, in order to make it strictly true, we must add, "at the same time." It is not unqualifiedly true to say that Paul cannot be both a Christian and a non-Christian, unless we say or mean that he cannot be both *at once*. The notion of time is thus seen to be fundamental even to these most necessary and intuitive laws of thought. This notion is also essentially involved in the principle of *causality*. The cause *precedes* the effect; we cannot reverse the order. Some men have been bold enough to deny the reality of causation as commonly conceived; but it is noteworthy that, while denying this, they

have yet held to the validity of the notion of time. They have tried to resolve cause and effect into a mere relation of *antecedence* and *consequence*; but this implies the reality of time. One may, indeed, attempt to escape the force of this by saying that causality does not presuppose time—that logical, or causal, antecedence is not to be confounded with chronological antecedence. But this does not do away with the fact that men instinctively and everywhere do regard time as presupposed in the relations of cause and effect. The very terms “antecedent” and “consequent” are borrowed from time-conceptions. Now, if a conception which thus forces itself into our most necessary and fundamental intuitions is to be regarded as nothing but an illusion, it must be equally easy to deny the validity of all intuitions. Every thing can be made purely subjective; every thing can be regarded as a mere seeming. And when one attempts to escape from the charge of landing us in universal and hopeless scepticism by appealing, as Professor Bowne does, to the veracity of God, there is this obvious difficulty in the way of regarding the attempt as satisfactory, viz.: If we may deny the validity of the notion of time,—a notion which is found to be essential to all thinking, and forces itself into the thinking and language even of those who are trying to get rid of it,—then how can we be any more sure of the validity of those other mental principles on the strength of which we infer that there *is* a God of veracity? Professor Bowne's intense and bold theism we must admire. His proofs of the weakness of atheism are worthy of all admiration. But does he not, by his dangerous approach to pure idealism, undermine the structure of his own theistic argument? That argument presupposes the reality of causation, but aims to show that the ultimate cause must be a personal one. But how does he prove the validity of the notion of cause? To be sure, we have an instinctive tendency to conceive of actions and events as causal and caused. But we have a no less instinctive ten-

dency to conceive of actions and events as taking place in time. If the latter notion may be pronounced a mere appearance, not true to outward fact, why not the other also? If one chooses, he can conjure up many metaphysical puzzles in connection with the notion of causality; and it is well known that some of the acutest philosophers in the world have denied the reality of causation. There is, in fact, no argument for it except the impossibility of thinking it away; and this argument is equally strong in favor of the reality of time. We have seen that even those who think they can do away with the reality of causation nevertheless assume the reality of time. We have seen that the notion of time is presupposed in that of cause. It is therefore only pure caprice which can single out the intuition of time as illusory, and yet hold fast to that of causation as valid. And a theistic argument which rests on the validity of one intuition, while another, equally or even more ineradicable, is arbitrarily pronounced worthless, can hardly be expected to be conclusive to those who admit the right to deal thus with the intuitions. If time is an illusion, cause may be likewise an illusion; and if cause is an illusion, then the theistic argument resting on the reality of it is also an illusion; and of course it becomes futile to appeal to the veracity of God in behalf of the truthfulness of our impressions concerning the reality of an outward world, after the proof of the existence of such a God has been thus undermined.

We must therefore maintain, in spite of Professor Bowne's disclaimer, that his theory does, if true, prove that men are the victims of delusion. He may call the delusion subjectivity, but the new name does not change the thing. Those who call a spade a spade will prefer to call the intuition a delusion, or a cheat, or a lie. There is no escape, on the theory in question, from absolute scepticism. One may think that he has detected the delusion, and thenceforth knows where he stands. But he cannot

detect it without assuming the trustworthiness of some *other* intuitions no better accredited than this; and so one finds himself in a bottomless quagmire of doubt. It is a comparatively easy matter to admit the inaccuracy of certain impressions derived from sense-perception, on the strength of more careful and complete observation. But we cannot become convinced of the inaccuracy unless we trust the fundamental intuition that there is an external world, and that we can *know* something about it. And this intuition is not more deep-seated and ineradicable than the necessity of thinking that time is a reality.

4. But, it may be said, here are, after all, the contradictions and absurdities which have been shown by Professor Bowne and others to be involved in the notion that time is an objective reality. What shall be done with them? It might be sufficient to reply that, inasmuch as we have found the denial of the reality of time to involve at least an equal amount of absurdity and self-contradiction, we cannot be much impressed with the conclusions of this argument against the reality of time. And inasmuch as on our part we have a positive and ineradicable law of thought, whereas on the other side there is an attempt—but an unsuccessful one—to escape this law, we might rest satisfied to leave the controversy where it is. But we may go further, and see whether, after all, these contradictions are so serious as they are made to seem. Professor Bowne's arguments are as follows: (1) The believers in time are accused of "sinning against the law of reason, which forbids all plurality of independent principles" (p. 219). It is not clear how this is to be understood. Is it meant that there is only *one* independent principle? Apparently; but if so, the proposition can be assented to only on the assumption that the meaning is that there can be but one Absolute Being—one God. This of course we will not deny. We may also admit the correctness of the following sentence: "Whatever time may be, it is no independent reality apart from being."

At least, we can admit that, if there were no being, there could be no thought about being or about time; and in that case it would be impracticable to discuss the question whether time still existed; there would be no use to discuss it. But we need not be troubled by this argument. Reason—at least, most men's reason—is quite ready to admit the existence of any number of principles that are sufficiently vouched for. Professor Bowne apparently lays a good deal of stress on the word "independent" in this connection. But this is a diversion from the main point. Is time a *reality*? That is the question. Is it a reality out of the mind, or is it only a way of thinking? We affirm that it is an objective reality, and that in so doing we no more "sin against the law of reason" than Professor Bowne does when he affirms the objective reality of *change*. Some men, in their passion for reducing every thing to the utmost simplicity and unity, have denied the reality of change. Why not call change, too, a subjective aspect of things? So with regard to causality. Is that an objective reality, or not? Professor Bowne would not deny it, we are sure. We do not say that cause or change is an *independent* reality; but we do say that both causality and change are objective facts; they are not mere modes of thinking. How many such principles are to be admitted as true, depends wholly on mental experience—upon the careful interrogation of consciousness.

But we advance to our author's next argument. (2) He says, "The view which regards time as a real existence is hopelessly unclear and inconsistent in its assumptions and implications" (*ibid.*). And then he goes on to give the proof of this in the manner briefly indicated at the beginning of this article. Now when we narrowly examine this argument, what do we find it to be? We find it to be this: Time, whether considered as a "flow," or as a space, or "channel," through which events flow, is equally inconceivable; in the first case the flow needs

something to flow in; in the second case, time would be conceived as a stationary channel all parts of which, past, present, and future, are equally real. By ringing the changes on this representation many funny absurdities are evolved. What shall we say then? Is time a flow—something which moves along as a train moves on the rails? No. Is it then a sort of channel in which events move? No. It is neither the one nor the other. These are both figures borrowed from space-conception, which cannot be carried out without involving apparent absurdities. It is easy and natural to fall into the use of such phraseology. Indeed, it may be unavoidable. So all our language is originally borrowed from space-conceptions. *Right* means *straight*. But if a man insists on making the two conceptions identical or even parallel, he will only make a fool of himself. A murderer in shooting his victim may take a *straight* aim, and his bullet may go *straight* to the other man's heart; but in spite of the straightness of the action, we call it wrong, not right. So although we may speak of time under the figure of space, the phraseology must always be understood as only conditionally correct. What then, it may be asked, is time, if it is not something which flows, nor something in which events flow, and yet is an objective reality? We reply: Time is time. It is an ultimate conception. It cannot be defined in terms which do not involve the prior existence of the conception. We refuse to be dragged into the pitfalls which are laid for us by one who assumes that we really think that time is a form of space, and on the strength of that assumption prepares to entrap us. Professor Bowne himself, after having exhibited the inconsistencies of the above-mentioned representations of time, says: "Their exceeding clearness and self-evidence are due to the space-metaphors in which the doctrines are expressed; and these metaphors, upon examination, turn out to be inconsistent and inapplicable" (page 223). Of course they do. But what of that? Who says that these

“metaphors” must be perfectly accurate in every direction? When a man tries to “make a parable walk on all fours,” who is to blame, the parable or the man? Or when, as in the present case, it is argued, as if against us, that the parable cannot be made to *run* on all four, we can only reply with the utmost cheerfulness, Very true. But when it is inferred that time, because not accurately described in terms borrowed from qualities of space, is therefore not a reality, we can only wonder at the logic.

But it is urged again, What is time? Is it a substance? Is it something that can be put side by side with material or spiritual realities as distinct from them, yet co-existent with them? Of course not. But what then? Is it a *quality* of substances, as form, color, hardness, etc. are predicated of objects of sight and touch? No. We certainly do not so conceive of time. Well then, it is triumphantly concluded, if time is neither a substance nor a quality of substances, then it must be *nothing*, it must be unreal; since there can be no object of thought which must not be classed either under the category of substances or of attributes. But we are not even yet dismayed—no, not even if it should have to be conceded that time cannot properly be called a *relation* of things. “Relation” is itself a word of very general and vague meaning. If any one should define time as a certain relation of things, the natural rejoinder would be, What *kind* of a relation? And the answer to this question would inevitably involve the conception of time as already existent. What Professor Bowne says of motion (p. 242) may certainly also be said of time; it “is indefinable, except in terms of itself.” Consequently, though one should insist that time, not being a substance, nor an attribute of substance, nor a relation of substances, must be a nonentity—a mere fragment or “form” of mental action, we need not be at all alarmed. We can only insist that we cannot think without assuming the reality of time, and that, if time cannot be defined by terms borrowed from other conceptions

and relations, that only proves that the conception is an ultimate and fundamental one; it is the conclusive proof of the validity of the conception. Probably a straight line has never yet been defined accurately in language which did not presuppose the previous conception of a straight line. But for that very reason we all the more believe in the validity of the conception.

But once more Professor Bowne argues against the common conception of time, that it cannot, as ordinarily supposed, "condition all change and activity." For, he says, in that case time would be "an agent" (p. 223). But time, he argues, cannot be regarded as a cause: "no one views time as causal. . . . Hence in inquiring for the causes of an effect, we leave time out of the question" (*ibid*). "It neither acts nor is acted upon, but remains a mere ghost outside of being, contributing nothing and determining nothing" (p. 224). Hence it is finally concluded that "the notion of time as a real existence must be given up" (*ibid*). But let us see. Is there no distinction between "condition" and "cause"? It is a condition of the possibility of opening a book that the book be shut. When now the book is opened, can it properly be said that its being shut is the *cause* of its being opened? Time, we are told, cannot condition change, unless it is an *agent*. Is the *shutness* of the book an *agent* in opening it? Is there not an unconscious logical jugglery in this argument against the reality of time? Let us see what, by a similar process, and even more legitimately, may be made out of Professor Bowne's own doctrine. "Change is real," he says (p. 237), and "time depends on change" (p. 227). Very good. Time, whatever it is, *depends* on change, i. e., in some sense is *caused* by it. But the cause being real, the effect must be real. Therefore time is real. Or let us take the notion of change itself. Is change a *thing*? or a *property* of things? No, clearly. Is it, then, a *relation* of things? Well, yes—or no, according as one chooses to look at it. But if yes, *what* relation?

Why, this; A' is related to A as having been "developed out of it." That is (for the phrase means nothing else), A is *changed* into A'. In other words, change is defined "in terms of itself." In short, we find that we have simply affirmed the reality of change, though it is not an independent thing, nor a quality of a thing, nor any relation of things which can be defined otherwise than by presupposing the conception to be defined. We are just as badly off as in regard to time itself. And yet "change is real," while time is "a ghost"!

There are many other reflections suggested by Professor Bowne's discussions. But all things must end; and it is time that this discussion should end, for the present at least.

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ARTICLE II.

OUTCOMES OF THE BIBLE NOT FOUND IN  
THE BIBLE.

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IN some fitting matrix in nature's laboratory, in a mountain gorge, suppose there are brought together carbon and a peculiar crystallizing force. It makes no difference for the present purpose whether this force is inherent in the carbon when in a certain state, or is a foreign principle. Suppose the two together in the same matrix and under favorable conditions. At first they are simply carbon and a crystallizing energy. If the pocket could be inspected, all that could be found would be these two; possibly all that could be *detected* would be the carbon, but the other is there also. Let the years or ages roll on, till the work in this laboratory is done, then