“Space” in Time –Bergson and Whitehead

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Introduction

The difference between Bergson and Whitehead

The concept of “spatialization” and “space”

(1) Whitehead’s philosophy and Bergson’s are both of them “process philosophies”, but they are largely of opposed types. (…) Both men hold that a true process is indivisible; but for Whitehead it always has the shape of an analyzable concrescence, whereas the issue of Bergson’s meditation was an intuition of “pure, unadulterated inner continuity (duration), continuity which was neither unity nor multiplicity,….” For Whitehead, the continuity of the stream of experience is a surface feature prominent in consciousness, the underlying reality being a succession of “drops of experience”; for Bergson, continuity is the fundamental fact, and there are no drops in Whitehead’s sense, but only static states artificially abstracted by our acts of attention or by psychological analysis. (Victor Lowe; Understanding Whitehead, The Johns Hopkins Press, 1962, p.260)

1.” pure duration”

“Pure duration” is the state of consciousness.

“Fallacy of misplaced concreteness” (A.N.Whitehead; Science and the Modern World, pp.50-51)

(2) They are fond of setting psychic states side by side, of forming a chain or a line of them, and do not imagine that they are introducing into this operation the idea of space properly so called, the idea of space in its totality, because space is a medium of three dimensions. But how can they fail to notice that, in order to perceive a line as a line, it is necessary to take up a position outside it, to take account of
the void which surrounds it, and consequently to think a space of three dimensions? (Henri Bergson; *Time and free will*, translated by F.L. Pogson, Humanities Press Inc. 1910, p.103—TW)

(3) Pure duration is the form which the succession of our conscious states assumes when our ego lets itself live, when it refrains from separating its present state from its former states. For this purpose it need not be entirely absorbed in the passing sensation or idea; for then, on the contrary, it would no longer endure. (TW, p.100)

“Pure duration” causes the spatialization which Bergson refutes.

2.”simultaneity of the flows”

“Half relativity” and “complete relativity”

(4) We shall therefore be able to say, as we please, that S’ is moving with respect to S or that S is moving with respect to S’, or rather that S and S’ are moving with respect to one another. In short, what is actually given is a reciprocity of displacement. (Henri Bergson; *Duration and Simultaneity*, translated by Mark Lewis and Robin Durie, Clinamen Press 1999, p.21—DS)

“Simultaneity of the flows” as a background

(5) When we are seated on the bank of a river, the flowing of the water, the gliding of a boat or the flight of a bird, the ceaseless murmur in our life’s deeps are for us three separate things or only one, as we choose. We can interiorize the whole, dealing with a single perception that carries along the three flows, mingled, in its course; or we can leave the first two outside and then divide our attention between the inner and the outer; or, better yet, we can do both at one and the same time, our attention uniting and yet differentiating the three flows, thanks to its singular privilege of being one and several. Such is our primary idea of simultaneity. We therefore call two external flows that occupy the same duration “simultaneous” because they both depend upon the duration of a like third, our own; (DS p.36)

Bergson proposes the concept “single time” which penetrates our universe. This “single time” functions just as a whole space.
3. “instantaneous space” and “timeless space”

“Time” and “space” are not separate, but arbitrary concepts to recognize the state of the world.

(6) I believe that in this doctrine I am in full accord with Bergson, though he uses ‘time’ for the fundamental fact which I call the ‘passage of nature’. Also the passage of nature is exhibited equally in spatial transition as well as in temporal transition. (A.N. Whitehead; *Concept of Nature*, Cambridge UP, 1920, p.54--CN)

Whitehead starts from the concept of “extension” and constructs space-time logically using the set theory. (The method of extensive abstraction)

“Instantaneous space” and “timeless space”.

(7) I have been speaking of the timeless spaces which are associated with time-systems. There are the spaces of physical science and of any concept of space as eternal and unchanging. But what we actually perceive is an approximation to the instantaneous space indicated by event-particles which lie within some moment of the time-system associated with our awareness. (CN, p.115)

Whitehead describes the space in “pure duration” which is rejected but presupposed by Bergson and the space of background which is a “single time” in a different way very precisely.

4. “epoch”

(8) The discontinuities introduced by the quantum theory require revision of physical concepts in order to meet them. In particular, it has been pointed out that some theory of discontinuous existence is required. What is asked from such a theory, is that an orbit of an electron can be regarded as a series of detached positions, and not as a continuous line. (A.N. Whitehead; *Science and the Modern World*, Free Press, 1925,--SMW, p.135)

Whitehead changed his continuous idea of “event” into the discontinuous idea of “actual entity” or “actual occasion”
(9) For, what becomes has duration. But no duration can become until a smaller duration (part of the former) has antecedently come into being. The same argument applies to this smaller duration, and so on. Also the infinite regress of these durations converges to nothing—(SMW, p.127)

Time is the continuous process in which discontinuous epoch is created one after another.

(10) Notice that the pattern requires a duration involving a definite lapse of time, and not merely an instantaneous moment. Such a moment is more abstract, in that it merely denotes a certain relation of contiguity between the concrete events. Thus a duration is spatialised; and by ‘spatialised’ is meant that the duration is the field for the realized pattern constituting the character of the event. A duration, as the field of the pattern realized in the actualization of one of its contained events, is an epoch, i.e., an arrest. (SMW, pp.124-125)

We need the spatialization for time to endure.

The concept of “epoch” is devised to solve the contradiction that appears necessarily in the concept of “pure duration” of Bergson.

5. “strain”

(11) In respect to time, this atomization takes the special form of the ‘epochal theory of time.’ In respect to space, it means that every actual entity in the temporal world is to be credited with a spatial volume for its perspective standpoint. (A.N.Whitehead; Process and Reality, Free Press, 1978, p.68--PR)

Our world consists in the extensive continuum.

Extensive continuum as a field and strain-locus which is formed by being atomized from the extensive continuum

(12) The meaning of the term ‘rest’ is the relation of an occasion to its strain-locus, if there be one. An occasion with no unified strain-locus has no dominating locus with which it can have the relationship of ‘rest’. An occasion ‘rests’ in its strain-locus. (PR, p.319)
Because there isn’t the extensive continuum as a background and the strain-locus or epoch in Bergson’s time theory, his ‘pure duration’ doesn’t endure but is only a pure static state.

Because Whitehead has “arrest” of “epoch” and “rest” of “strain”, his time theory became to have a true moving time.

(13)Thus in so far as Bergson ascribes the ‘spatialization’ of the world to a distortion introduced by the intellect, he is in error. This spatialization is a real factor in the physical constitution of every actual occasion belonging to the life-history of an enduring physical object. (…) The reality of the rest and the motion of enduring physical objects depends on this spatialization for occasions in their historic routes. The presented duration is the duration in respect to which the enduring object is momentarily at rest. It is that duration which is the strain-locus of that occasion in the life-history of the enduring object. (PR, p.321)