

bergson on panpsychism

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1. THE PANPSYCHISM RENAISSANCE AND BERGSON

The purpose of this paper is to contextualise Henri Bergson's panpsychist thought against the background of the panpsychism debate that is being revived in contemporary analytic metaphysics, thus, giving Bergson's thought an accurate characterisation and clarifying its place in the debate.

Although Bergson's name is rarely mentioned as a source of modern panpsychism, whereas his contemporaries William James, Ernst Mach, and Bertrand Russell often are – there is a common understanding among Bergsonian scholars that his philosophy has a clear panpsychist orientation. For example, Milič Čapek, in his book published in 1971, characterises the theoretical foundation of Bergson's

panpsychism as follows:

Although the element of novelty differentiating two successive events of physical duration is negligible in our macroscopic perspective, it cannot be completely absent. In other words, there is an *element of heterogeneity* even in the physical world ...if the differentiating element of novelty is due precisely to the survival of the antecedent moment within the present, then there must be an element of memory, that is, a certain degree of interpenetration of successive phases even in physical duration. Without such an element of memory there would be no duration at all. Here is the basis of Bergson's panpsychism¹.

As the title of Bergson's main philosophical work—*Matter and Memory*—on the problem of the duality between mind and body suggests, the mind is first and foremost a “memory” (*mémoire*). Therefore, for him, a panpsychist claim would mean that memory (in his sense) is omnipresent in the universe, and since the so-called *durée* [duration] can be regarded as a fundamental manifestation of this memory, it can be postulated that duration is also omnipresent. It would not therefore be unreasonable to qualify his philosophy as ‘panmemoryism’ or ‘pandurationism.’ However, the real question is, how can this be meaningfully understood as a philosophical claim about the origin of consciousness, rather than just a replacement of the two terms—panpsychism to ‘panmemoryism’ or ‘pandurationism’?

In a series of major symposia organised by Project Bergson in Japan (PBJ²) and held for three consecutive years beginning in 2015, *Matter and Memory* underwent an extensive re-examination³, where Bergson's panpsychist views became one of the points of convergence among discussants such as Barry Dainton⁴, Joël Dolbeault⁵, Stephen E. Robbins⁶, and Yasushi Hirai⁷, especially in this new interdisciplinary context. In particular, Dainton, a leading British analytical philosopher in the field of temporal experience and a central figure of the PBJ on *Matter and Memory*, has consistently emphasised that Bergson's version of panpsychism offers an interesting standpoint in the contemporary analytical context.

I think something else is clear as well: Bergson's solution to the problem of consciousness is not solely of historical interest. For anyone interested in a unified, monistic, world-view, one where the mental and the physical are not fundamentally different in kind, then the approach pioneered by

Bergson – a novel combination of direct realism and panpsychism – is well worth considering⁸.

As we shall see below, there are several variants of modern panpsychism. In this paper, I would like to show that Bergson's view can be seen as a form of panqualityism, and possibly interpreted even as a version of panexperientialism.

2. PANQUALITYISM, PANPROTOPSYCHISM, AND PANEXPERIENTIALISM

The common motivation of contemporary panpsychism is to avoid the difficulty entailed by the 'emergentist' account of the mind⁹. The problem is that, if you consider mind as something irreducible and contradictory to matter, you need to explain the *origin* of mind out of matter from which it is fundamentally different, which would require a miraculous leap. The panpsychist approach tries to avoid this explanatory hiatus between the phenomenal and the physical. Instead, it considers that the elementary physical entities are already endowed with something of the phenomenal/mental in one way or another, to provide us with a more globally consistent view of the universe. That is why modern panpsychism is valued not only by philosophers but also by prominent scientists such as Christoph Koch and Roger Penrose. This view can be said to be principally motivated by the elimination of such an emergence *ex nihilo* or, more precisely, of what Brüntrup calls 'superstrong emergence'¹⁰.

However, as we shall see later, this type of *evasive* argumentation based on a negative determination of the mind is not what Bergson adopts. Indeed, modern panpsychisms are sometimes criticised for preserving, rather than solving, the problem by pushing it back to its origins. In contrast, Bergson's version points to a different path from these modern theories through its peculiar concept of memory. Because by "defin[ing] spirit and matter by positive characters, and not by negations," (Bergson, 235/200) Bergson tried, in our view, to establish a new, integrated way of conceiving both the physical and the phenomenal based on their fundamental structure of time, i.e., "memory" in his sense.

In general, there are two immediately noticeable difficulties with panpsychism. The first is the problem of what we can reasonably think of as 'something that matter has that is akin to the mind' (which we would call the 'understandability problem' here). The second is the 'combination problem', as pointed out by W. James, i.e., how microscopic minds can come together to form a single macroscopic mind.

Panqualityism is regarded as a countermeasure to these problems. Indeed, this view is commonly shared among philosophers contemporary to Bergson, such as W. James, E. Mach, and B. Russell¹¹. According to D. Chalmers¹², this view can be considered a version of panprotopsychism rather than panpsychism. While panpsychism ascribes phenomenal properties to the physical, panprotopsychism admits only *proto*-phenomenal properties, i.e., elementary properties that serve to constitute phenomenal properties. Panqualityism is the view which appeals to the notion of ‘unexperienced qualities’ as protophenomenal. Phillip Goff summarises this as follows:

Our conscious experience is filled with experienced qualities, e.g., those phenomenal qualities involved in seeing colour or feeling pain. Panqualityists believe that such qualities are only contingently experienced, and that in basic matter they exist unexperienced¹³.

The key idea of panqualityism is to conceive of *bare qualities without/before being subjectively experienced*. To put this point in perspective, if we break down the mental phenomenon into three elements: (1) the quality experienced, (2) the subject experiencing it, and (3) the act of experience, then, panprotopsychism in general claims that matter has at least one, if not all, of these three elements. Admitting the existence of micro-subjects (2) in physical events would be in direct conflict with the understandability problem as well as the combination problem but admitting the existence of micro-qualities (1) or micro-experiences (3) seems less likely to be a problem, which, in turn, leads to panqualityism and panexperientialism, respectively. In that sense, these two views can be said to weaken the original ideas of panpsychism and thus alleviate much of its problems.

Chalmers divides the combination problem into three categories, one of which is the ‘quality combination problem’, that is “how ... microqualities combine to yield macroqualities”¹⁴. Indeed, this problem seems much more approachable than the subject combination problem. It is important to note, however, that the micro-macro combination relationship is *not* the relationship between proto-properties and properties. Unlike panpsychism, panqualityism has removed the subject and experience in the first place, so even if you could explain the macroscopic quality from the microscopic qualities, the question of from where the macroscopic ‘subject’ and macroscopic ‘experience’ emerge is left out.

3. BERGSON'S PHILOSOPHY OF MIND

Then, in what sense can Bergson's philosophy be considered a version of panpsychism, and how might he answer the questions posed above? Let us first consider the following quote:

Only one hypothesis, then, remains possible; namely, that concrete movement, capable, like consciousness, of prolonging its past into its present, capable by repeating, itself, of engendering sensible qualities, *already possesses something of consciousness, something of sensation*. (Emphasis added, Bergson, 329/278)¹⁵

In this text, Bergson clarifies the origin of the sensible qualities that humans phenomenally experience. The idea is a fairly panqualityist one, attributing microscopic qualities to matter as the basis for our macroscopic qualities. This claim is supported by his "contraction" theory, but before getting directly into it, let us first give an overview of how the mind at large is conceived in Bergson's philosophy.

At a given moment, Bergson seems to give us a frankly dualistic picture: a human being is made up of two components that are *different in nature*, that is, a physical body and a conscious mind made up of all past experiences. Each act of human experience is also depicted in a similarly hybrid way: it contains, at the same time, the top-down representation that is the memory-image projected onto the bottom-up base that is the 'motor scheme' of the brain. A quote from M. Sinclair summarises this brilliantly:

...in actual fact, perceptual experience is always overladen with memory-images, there exists a "pure perception" on the basis of which memory comes into operation. Memory provides the subjective aspects of perception, whereas the operation of the biological, "living body [*le corps vivant*]" [MM 44/43] provides their objective base¹⁶.

Bergson positively claims that human experience is mostly made up of an active reconstruction that we perform. He devotes a fair amount of time describing the mechanism of 'attentive recognition', which consists of outward projections of the mental representations derived from memory, such as images and general notions¹⁷. However, underneath these 'memory-images' that *cover*¹⁸ the experience lies a physical layer consisting solely of external givens.

Thus far, the picture remains dualistic. However, herein lies a twist, that is, the

memory-as-contraction. It intervenes in the layer of physical interaction and turns it into the phenomenal, as we shall see later. The sensible qualities, which roughly correspond to elementary sensory *qualia* in modern vocabulary, are thus given. Thus, the “dual function” of memory according to Bergson corresponds to these two layers that are both phenomenal: the “contracting” function of memory to the bottom-up layer of quality, along with its “covering” function to the top-down layer of the image. This allows us to see the dual layers of our phenomenality (sensible qualities and memory-images) resulting from the two functions of the same ‘memory’.

Here, is a second twist. The duality of the memory function comes from a view at a certain point in time. If our understanding is correct, Bergson provides a deeper integration through time. The question that remains is: where does *memories-as-content* (*souvenirs*) on the upper layer (e.g., materials of the covering function of memory) come from? What Bergson denies most of all is that the brain produces them at each moment as phosphorescence. Instead, his *survival-of-the-past-per-se* thesis (the SP thesis) tells us that any event experienced by us survives on its own, that is, without needing any material medium, such as nerve cells (conversely, matter has the capacity to persist for only a very microscopic duration)¹⁹. We have mental images not because we produce them, but we retain them in a much larger timescale than matter. Remember that every experience at a moment is made up of bottom-up qualities and top-down images. According to the SP thesis, these latter images are the survivals of past experiences, which are, again, made of qualities and images, and so on. This leads us to see that all phenomenal elements are *ultimately* derived from contractions that occurred at some point in time.

Finally, by adding an *evolutionary* perspective to this argument, we obtain insight into the possible integration of the two functions of memory, because both contraction and the SP thesis are commonly grounded on the *power of extending the system’s intrinsic timescale*, which shall be called ‘memory’ in the most technically Bergsonian sense²⁰.

... the more complex organization of the nervous system ... is only the material symbol of that independence itself, that is to say of the inner energy which allows the being to free itself from the rhythm of the flow of things, and to retain in an ever higher degree the past in order to influence ever more deeply the future, — the symbol, *in the special sense which we give to the word, of its memory*. (Emphasis added, Bergson, 296/249-250)

The contraction consists of the fact that the organism realises interactions on a larger timescale with matter which occupies only a minimal moment. As we shall see later, this furnishes the ‘lived present’ with sensory qualities. However, the utilisation of the remote past, such as the memory-image requires a *further* extension of the system’s timescale, which corresponds to a higher degree of ‘tension’ in the Bergsonian terminology. Macroscopic memory is neither equally nor *a priori* available to all organisms. Bergson considers a “scale of being” (Bergson, 275/232) according to the system’s gradual development of a temporal structure.

In the following sections, we first examine Bergson’s perception theory, which is the premise of the contraction. It should also be noted here that the phrase “prolonging the past into the present” that appears in the above quotation gives his *operational* definition of “memory”, and the “contraction” is based on this definition of memory.

3.1. PERCEPTION AND THE DIRECT REALISM

As is evident in Dainton’s remark above, what makes Bergson’s panpsychism unique is his direct realism. Why? Because if our perception was obtained only through indirect representations, we would have no real clue as to whether there is any immanent quality in matter. Therefore, his theory of perception guarantees room for an empirical bridge to the metaphysical claim that matter possesses a protophenomenal property.

The Bergsonian version of direct realism, distinct from naïve realism, was developed in his perception theory. As was depicted earlier, Bergson’s theory of knowledge has a hybrid structure consisting of perception and memory. Through the lower layer of perception, we directly reach the physical texture of the world. This is the field in which Bergsonian panqualityism shall be situated.

This is not merely a speculative conjecture. Here, we recognise what might be called an ‘ecological turn’ of the theory of perception, a theory based on the findings of biology and physiology. An intellectual subject is no longer the starting point in this new perspective. Representational cognition, such as that studied by traditional philosophy, requires a relatively complex nervous system, which all animals do not possess. For the majority of animals, perception is nothing more than an immediate sensory-motor circuit. In some elementary animals, sensors and motors are literally linked by causation; for example, like in an automatic door,

they do not require any reflective intelligence for action. The same sort of causal process underlies the “impersonal basis” (Bergson, 71/69) of human cognition.

Perception as a System

It is important to note that Bergson discusses perception by using the term “system” (“a system of images which I term my perception of the universe” (Bergson, 12/20)). Perception is not the final product of the causal process but the very circuit constituted by the environment-body interaction. In this sense, perception extends beyond the body that perceives it. Bergson says, “the brain, nerves, retina *and the object itself* form a connected whole, a continuous process in which the image on the retina is only an episode.” (Bergson, 285/241; 37-38/41)

Different perceptual worlds reflect different repertoires of possible reactions of the body to a given environment. What the animal can react to defines what it perceives. Differences in perception between species and individuals are relativised without bringing in so-called mental subjectivity.

First, in *Matter and Memory*, the physical universe itself is considered as a system consisting of the totality of interactions rather than a collection of discrete and static objects²¹. Thus, the constituents of perception are a small subset of these universal interactions. Therefore, with regard to its material, there is a *constitutive* rather than a *causal* relationship between perception and matter²². Perception is not *produced* by a physical interaction but is *constituted* of such an interaction. That is why perception, according to Bergson, “would be a part of things rather than of ourselves” (Bergson, 69/67). In this sense, perceptions are literally situated outside the body²³.

The role Bergson attributes to the physical body is consistent, whether in perception or memory, and it only performs a selection, or at best, a reconstruction of what is given, but never a production of anything mental or phenomenal, such as sensory qualities or mental representations. Bergson has severely criticised epiphenomenalism, which he assesses would require a miraculous emergence. The point for panqualityism is, again, that perception *is made up of* physical interactions. This constitutive relationship secures an immanent pathway to the microscopic qualities of matter.

3.2 CONTRACTION AND SENSIBLE QUALITIES

As mentioned earlier, Bergson’s hybrid view distinguishes the two layers of our

phenomenal properties. The top-down projection of memory-image is derived from the original past experience, whereas the bottom-up sensory qualities (e.g., the redness of red) are brought by contraction at that moment. If this is the case, then, there is only one source of phenomenal properties: contraction.

Evolution of Memory

Just as perception theory spatially extends our perception, contraction theory *temporally extends* it²⁴. When Bergson sees the body as a “sensory-motor system,” he perceives it not only as a spatial arrangement of nerves, as it is commonly understood, but also in terms of the temporal prolongation required by its processing. This perspective allows us to see evolution not only in terms of the increasing complexity of a biological organism, but also in terms of its increasing timescale, that is, its *reaction delay*. In a simple organism, the reaction “can then hardly be delayed” (Bergson, 22/28), whereas distant perception (vision and audition), in his view, emerges at the very moment when organisms are able to control a larger timescale, “defer the date of their fulfilment” (Bergson, 23/29) of the response, and the stimulus “is not prolonged into a necessary action” (Bergson, 22/28). Evolution is thus captured as a process in which an organism’s system, composed of a sensory-motor interaction loop, has progressively enlarged its temporal extension (see Fig. 1). Now, having a greater range of time demands retaining the precedent moments that should have vanished otherwise and anchoring them to the latest moment. This is nothing less than the work of “memory,” which brings a higher intensity of “tension” to the temporal structure²⁵.

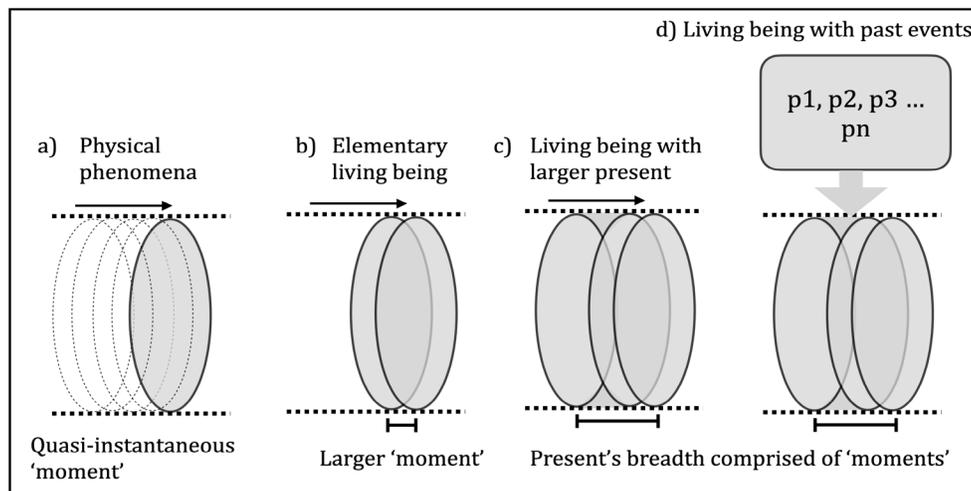


Fig. 1 Stages of Memory in Evolution

Although the organisation of interactions becomes more variable and complex with the development of the nervous system and other factors, it remains true that the body does not have the ability to produce any new constituents of experience, even in advanced organisms. The major difference between less complex creatures and humans would consist in the significant expansion of the available materials that constitute their experience. In living beings with only scarce temporal extension, the totality of physical stimuli *in the present moment* is the maximum domain, whence their perception is selected. The development of memory extends this domain in the direction of the time dimension²⁶.

Timescale Gap in Interaction

What is contraction? It explains the sensible quality by a *temporal* version of ‘fusion emergence’²⁷, which is a fusion of successive *moments* effectuated by the timescale gap between matter and organisms. As we saw above, in Bergsonism, perception is a system of interaction that includes material action and the body’s reaction. The ‘intrinsic timescale’²⁸ of a living being is relatively large compared to that of the material stimuli in the environment (e.g., light in the case of vision). This means that a single continuous process of perception involves a considerable timescale gap. This leads to what I would call ‘temporal coarse graining’ or ‘temporal compression.’ In my understanding, the Bergsonian contraction is not different.

A number of moments that should have ‘passed’ from matter’s own timescale is retained and included within the smallest unit of time for the organism. In the same way that new properties emerge from the ordinary, i.e., spatial coarse-graining, a temporal coarse-graining gives rise to novel qualities: “Sensible qualities ... are in fact the successive *moments* obtained by a solidification of the real.” (Emphasis added, Bergson, 279-280/236)

It is this temporal compression derived from a timescale gap that provides our perception with the macroscopic phenomenal quality which micro-physical events do not possess as such. Therefore, contraction can be regarded as a kind of fusion emergence in the sense that micro-moments, which are supposed to be discrete in an inherent way, cease to be distinguished from each other. In this way, a superstrong emergence is avoided. This is also why the microscopic physical moments before the contraction are also said to have “this same sensation diluted [diluée], spread out over an infinitely larger number of moments.” (Bergson, 329/278)²⁹.

But, if you abolish my consciousness, the material universe subsists exactly as it was; only, since you have removed that particular rhythm of duration which was the condition of my action upon things, these things draw back into themselves, mark as many moments in their own existence as science distinguishes in it; and sensible qualities, without vanishing, are spread and diluted in an incomparably more divided duration. (Bergson, 276/233-234)

As you can already see, Bergson confronts the ‘quality combination problem’ from microquality to macroquality. He provides us with a specific model, the timescale gap, to show that this relationship is *constitutive in material and emergent in properties*. The fact that perception and matter are not the same in terms of quality but still maintain a constitutive relationship deserves to be emphasised. When we perceive a redness ‘over there’, this redness is nothing newly *produced in our mind over and above the physical basis*. This explains why he repeatedly uses expressions such as “same sensation” and “same quality” in this context. “Between sensible qualities, as regarded in our representation of them, and these *same qualities* treated as calculable changes, there is therefore only a difference in rhythm of duration, a difference of internal tension.” (Emphasis added, Bergson, 329/278).

Perception and contraction

According to Bergson’s thesis of perception and contraction, we directly capture the material vibration propagating *through space*—which means the redness is rightly *over there*—but in addition, we capture the vibration *through a duration longer* than it should be, which makes it a redness. Therefore, contraction multiplies the constituents, but this is not done by producing them but by preventing them from vanishing. These additional constituents are the immediate past physical vibrations which would not have been retained without the larger timescale, i.e., memory.

It is true that scientific observation does not show any such phenomenal quality. However, this does not mean that either observation is falsidical. The difference lies in the temporal relationship between the observer and observable. In the Bergsonian perspective, observation would not take place without interference, even in a scientific context (cf. Bergson, 35/39). There is also no interaction without a determinate intrinsic timescale. Therefore, if the temporal resolution of your devices is sufficiently high, you would obtain microscopic temporal accuracy such

as the frequency which you could not perceive with your naked eye. However, this means that you cancel out the effect of the contraction. You may well ‘extend’ the duration in a non-Bergsonian way, but it would only be a juxtaposition of microscopic observations because each act of the interaction (observation) is limited to the microscopic moment.

In other words, to obtain the effect of contraction, you need to have a sufficient timescale gap in the *first-hand* interaction phase. Otherwise, temporal extension would be nothing more than an artificial reconstruct. In this sense, the phenomenal quality of redness as we experience it is literally made up of electromagnetic waves with a wavelength of 600 nm, *under the key condition that they are temporally extended and intrinsically captured*.

On the other hand, this makes it reasonable to assume that there should be microqualities in matter, if our sensible qualities are nothing more than these successive material moments (although temporally compressed). Thus, to be precise, physical events are no longer said to be “homogeneous” but rather “less heterogeneous” (Bergson, 329/278).

Subject and experience

This is what we identified as Bergson’s panqualityism. How, then, does he deal with the other problems enumerated at the beginning? What contraction can provide is only a bridge between microquality and macroquality. However, in order to attain a complete mind (rather than a proto-mind), you need, in addition to (1) qualities, (2) a subject, and (3) an experience.

First, let us examine (2) the subject. As it turns out, for Bergson, a micro-physical event has no subject. This is because the macroscopic ‘subject’ of human beings, in Bergson’s model, requires a sufficiently large expansion of memory to be able to introduce the *remote* past into the system (the PS thesis seen above), which is not expected from matter. My “personality” with “intention” (Bergson, 167/145) consists of the various “systematizations” (Bergson, 220/188) of “the totality of its past” (Bergson, 218/186). Therefore, matter does not have a subject.

What about (3) experience? In this regard, Bergson’s argument stands out for its neat positioning, because the very act of contraction, which explains the phenomenal quality, already implies an experience (at its perceptual layer). Recall that contraction is based on direct perception involving the body and the environment. *It is not the case* that physical microqualities are *first* combined into

a macroquality and *then* experienced phenomenally. Having a specific interaction loop with the environment *is* experience, or more precisely, experience at its impersonal layer.

It is true that our experience contains a top-down projection, which, in fact, largely contributes to what it is like to be a human being. This part of our experience is certainly not reducible to any *temporally local* activities, since contraction only explains the lower layer of the phenomenal experience, not the higher cognitive activities. However, this does not mean that it is an *a priori* independent entity beyond explanation. As was confirmed earlier, the higher level of phenomenality is ultimately derived from *past* contractions and their reorganisation in a *far more extended* memory. In Bergson's view, the mind cannot be framed within any local physical entity, such as the brain; rather, it consists of a system of *preserved remote past events*. As long as understood in this more temporally global sense, the mind can be said to still maintain a constitutive relationship with the *temporally extended* nature³⁰.

Toward a panexperientialism

The question that remains is regarding the *micro* experience, that is, whether physical vibrations can have an experience. Indeed, that a contraction implies a macro-experience does not directly imply that each of the elementary interactions has a micro-experience on its own. In a general understanding, panqualityism admits, as Goff says, 'qualities without being experienced,' that is, that it is not necessary for something to be experienced for it to be a quality.

However, as it turns out, for Bergson, the intensity of a feeling "consists in being felt."³¹ In other words, there is no quality without being experienced as such, and no sensible quality without being sensed. To be more precise, the microquality can certainly exist without being experienced *by us*, that is, without contraction, but it cannot exist without being experienced at all. Let us carefully examine the following quote:

[E]ven the sensible qualities of matter would be *known in themselves, from within* and not from without, could we but disengage them from that particular rhythm of duration which characterizes our consciousness. (Emphasis added, Bergson, 75/72).

In this case, the contraction is supposed to be deactivated, as in the case quoted earlier, but here we are being told that there is experience "in themselves, from

within” (however, there is no room here for a subject, since a physical event lacks remote memory as mentioned earlier, and this might explain why this passive voice lacks the semantic subject represented by “by”). In fact, the idea that matter has experience would not be very surprising, considering Bergson’s view that perception and matter differ only in degree.

If this can be grounded, Bergson’s position would be characterised as panexperientialism, not merely as panqualityism³². This implies an important theoretical turn regarding the overall strategy, as shall be seen in the next section.

4. NON-ANTHROPOMORPHIC PANPSYCHISM

Let us look back at the form of the argument used so far. Humans experience phenomenal qualities intrinsically and in the first person. Owing to direct perception and the contraction theory, we can empirically infer the microqualities as *constituting* this macro quality. It should be noted that the microqualities here must be *intrinsic* because the extrinsic qualities observed in the third person are not relevant here³³. Although, by the very fact of their being intrinsic, these microscopic qualities are not directly observable by us, and if we do not want to admit any miraculous emergence or epiphenomenon, then we need some form of constitutive basis for phenomenal properties. Bergson’s answer was not to align himself with the conventional view of the matter, but *to extend it in terms of its temporal extension and to capture the interaction that involves temporal gap from an internal perspective*. It should also be noted that his theories of perception and contraction are not mere conceptual speculations but are deeply inspired by the findings of biology and physiology.

Bergson’s argument so far, although it contains some ingenious perspectives, none the less seems to take the same line as the conventional *evasive* strategy of panpsychism, assuming the microqualities from the beginning just to avoid the explanatory gap. However, Bergson is clearly aware that this kind of top-down argument is insufficient and should be complemented by an “opposite course”. He tells us that the meaning of microquality should not be supplied from that of our own phenomenality.

We may certainly feel averse to the use of the word “memory”³⁴ if an anthropomorphic sense is attached to it. But to imagine a thing that endures, there is no need to take one’s own memory and transport it, even attenuated, into the interior of the thing. ...It is *the opposite course* we must

follow. (Emphasis added)³⁵

In order to do so, we need to redefine the term “memory” in an *operative* way, independent of the ordinary subjective/psychological meaning. The following is an important text, where he urges readers to pay particular attention to this shift in definition.

It is memory, but not personal memory, external to what it retains, distinct from a past whose preservation it assures; it is a memory *internal to change itself* [mémoire intérieure au changement lui-même], a memory that prolongs the before into the after, keeping them from being mere snapshots appearing and disappearing in a present ceaselessly reborn. (Emphasis added)³⁶

Herein lies the pivotal turn in the argument. This memory is inherent, but *not to any human consciousness, i.e., macro-subject*, but *to the change itself*. In other words, memory is an essential requirement for a change to take place in general. Duration requires a before and after, but both must not be present at the same time. “There cannot be a before and an after; there is one or the other, not both; and both are needed to constitute time.”³⁷ If we continue by saying ‘that’s why time is impossible,’ this would lead to a kind of McTaggartian contradiction. From here, however, Bergson goes on to say that if change were to be maintained, ‘before’ must somehow be *prolonged* into ‘after’³⁸, and that if ‘before’ must be retained to be introduced into ‘after’, we shall call it an elementary memory, independent of any mental connotations.

Without an elementary memory that connects the two moments, there will be only one or the other, consequently a single instant, no before and after, no succession, and no time. We can bestow upon this memory just what is needed to make a connection. ...*We shall nonetheless have introduced memory.* (Emphasis added)³⁹

The key lies in the concept of memory, redefined as something completely depsychologised. To avoid confusion, we will hereafter refer to memory in this sense as *proto-memory*. Temporal extension is a property of the system, regardless of whether it is material or biological. It neither implies materiality nor phenomenality in itself. However, if it is true that wherever the proto-memory evolves its temporal extension, a timescale gap involved there gives rise to something of phenomenal, then, the memory in the usual psychological sense

will eventually be realised at a later stage of the evolution. This theoretical move allows us to see the distinction between the physical and the phenomenal not as *a priori* but as relativised in terms of the development of proto-memory, which, in our view, makes Bergson's strategy advantageous.

The fact that the physical world is interwoven with actions and reactions requires the connection of multiple non-zero widths of time units. Saying that matter has a proto-memory means nothing further than that. Nothing of mental is presupposed here. This allows us to avoid the standard argument, which puts the phenomenal in the physical on purpose. Besides, stating that the evolution of the proto-memory has brought a sufficient temporal extension to the living system on some lineages is nothing but a biological fact and has no phenomenal implications in its own right. However, if Bergson's argument, which grounds the sensible quality and the experience of it in the perception theory (which reduces a part of perceptual experience to physical action) and contraction theory (which explains phenomenal quality by the temporal constraints of the system, but without any additional constituents), is grounded, then might not the material condition of the phenomenal experience ultimately come down to the fact that the universe consists of a system of interactions, that is, the existence of more than one past moment rather than one present moment? In short, might not the phenomenal be explained *a posteriori* solely by the existence of the material interaction and the "memory" (proto-memory and its development)?

It should be remembered that Bergson's argumentation does not proceed *a priori*. It is bridged by empirical findings at various points. For those who are dissatisfied with the conventional panpsychist strategy of simply pre-attributing the one element of the physical-phenomenal dichotomy taken as absolute to the other, Bergson's approach, which appeals to the temporal structure of system defined neutrally to matter and mind and allows us to put panpsychism under the light of empirical enquiry, might be worth considering.

YASUSHI HIRAI is a Professor at Fukuoka University, Japan. He is the chief director of Project Bergson in Japan (PBJ) and a board member of Société des Amis de Bergson (SAB). He is the co-editor of the books: *The Anatomy of Bergson's Matter and Memory*, *Diagnosis of Bergson's Matter and Memory*, *Rebooting Bergson's Matter and Memory* (Tokyo: Shoshi Shinsui). His monograph *Bergson's Philosophy of Time* (in Japanese) is forthcoming

in 2022. His current research explores the possibility of reconstructing philosophical notions such as consciousness, memory and freedom on the basis of a Bergsonian multi-timescale structure.

NOTES

1. Milič Čapek, *Bergson and Modern Physics: A Reinterpretation and Re-evaluation*. Dordrecht-Holland: D. Reidel Publishing Company, 1971, 302. See also Mark Sinclair, *Bergson*. London: Routledge, 2019, 126; 283.
2. Project Bergson in Japan was first established by Shin Abiko and Hisashi Fujita in 2007. It has organized a systematic and intensive rereading of Bergson's major works, such as *Creative Evolution* (PBJ 2007-2009), *Two Sources of Moral and Religion* (PBJ 2011-2013), before Yasushi Hirai (author of this paper) became the director of the 3rd cycle (PBJ 2015-2017) on *Matter and Memory*. The website is: <http://matterandmemory.jimdo.com/>
3. The proceedings have already been published in Japanese. Yasushi Hirai, Hisashi Fujita and Shin Abiko, eds. *Berukuson Busshitsu to Kioku wo Kaibou Susu: Gendai Chikaku Riron, Jikanron, Kokoro no Tetsugaku to no Setsuzoku* [*The Anatomy of Bergson's Matter and Memory: Connections with the Contemporary Theories of Perception, Mind and Time*]. Tokyo: Shoshi Shinsui, 2016; *Berukuson Busshitsu to Kioku wo Shindan suru: Jikan Keiken no Tetsugaku, Ishiki no Kagaku, Bigaku, Rinrigaku eno Tenkai* [*Diagnoses of Bergson's Matter and Memory: Developments toward the Philosophy of Temporal Experience, Sciences of Consciousness, Aesthetics, and Ethics*]. 2017; *Berukuson Busshitsu to Kioku wo Saikidou suru: Kakuchou Berukuson-shugi no Shotembou* [*Rebooting Bergson's Matter and Memory: Multidisciplinary Perspectives on Expanded Bergsonism*]. 2018.
4. Barry Dainton, "Neutral Monism, Temporal Experience and Time: Analytic Perspectives on Bergson." in Hirai, Fujita and Abiko, *The Anatomy*, 206-238; "Bergson on Being, Dreaming and Seeing" in Hirai, Fujita and Abiko, *Diagnoses*, 122-153; "Atemporal Panpsychism", in Hirai, Fujita and Abiko *Rebooting*, 189-221.
5. Joël Dolbeault, "Bergson's Dualism Today" in Hirai, Fujita and Abiko, *The Anatomy*, 84-100; « Le panpsychisme de Bergson : une hypothèse sur la nature de la matière », *Philosophie* 117 (janvier 2013, 38-54).
6. Stephen E. Robbins, "Bergson, Gibson and the Image of the External World" in Hirai, Fujita and Abiko, *The Anatomy*, 118-137.
7. Yasushi Hirai, "Bergsonian Panqualityism and the Phenomenal Image" in Hirai, Fujita and Abiko, *Diagnoses*, 160-185.
8. Dainton, "The Neutral Monism", 213. See also his consecutive contributions in 2017 and 2018.
9. For a general understanding of modern panpsychism, apart from references mentioned individually below, see Anthony Freeman ed., *Consciousness and Its Place in Nature: Does Physicalism Entail Panpsychism?* Exeter: Imprint Academic, 2006; Philip Goff, *Consciousness and Fundamental Reality*. Oxford: Oxford University Press, 2017; David Ray Griffin, *Unsnarling the World-Knot: Consciousness, Freedom, and the Mind-Body Problem*. Berkeley: The University of California Press, 1998; Christof Koch, *Consciousness: Confessions of a Romantic Reductionist*. Cambridge: MIT Press, 2012.
10. Godehard Brüntrup, "Emergent Panpsychism." *Panpsychism*. Eds. Godehard Brüntrup, Ludwig Jaskolla. Oxford: Oxford University Press, 2017, 68-69.
11. Sam Coleman is a contemporary representative philosopher of this view. Sam Coleman, "Mental chemistry: Combination for panpsychists." *Dialectica* 66 (2012, 137-166).
12. David Chalmers, "Panpsychism and Panprotopsychism." in Bruntrup and Jaskolla, *Panpsychism*, 42.
13. Philip Goff, The July 2017 version of the entry of "Panpsychism" in the Stanford Encyclopedia of Philosophy: <https://plato.stanford.edu/entries/panpsychism/#PanVersPanp>

14. The remaining two are the “subject combination problem” and the “structure combination problem”. David Chalmers, “The Combination Problem for Panpsychism.” in Bruntrup and Jaskolla, *Panpsychism*, 183.
15. This and all parenthetical references are taken from Henri Bergson, *Matter and Memory*. Trans. N. M. Paul and W. S. Palmer. London: George Allen & Unwin, 1911, followed by the pagination of the original French text from Henri Bergson, *Matière et mémoire*. Paris: PUF, 1896. The translation is modified when needed. Regarding this citation, the translation states: “something akin to consciousness, something akin to sensation”, whereas the original French text is much more impactful. It states : “déjà quelque chose de la conscience, déjà quelque chose de la sensation” as has been modified in the quotation.
16. Sinclair, *Bergson*, 115. [MM 44/43] in the quotation means Bergson, *Matter and Memory*, 44/43.
17. This layer contains image recognition (attentive recognition), attention, general ideas, interpretation, dream, imagination, episodic memory, among others.
18. Bergson often denotes this duality by using the term “cover [recouvrir]” and “contract [contracter]”. “In short, memory in these two forms, covering as it does with a cloak of recollections a core of immediate perception, and also contracting a number of external moments into a single internal moment, constitutes the principal share of individual consciousness in perception, the subjective side of the knowledge of things.” (Bergson, 25/31; 80/76).
19. Regarding the multi-timescale structure including these remote past events, see Yasushi Hirai, “Event and Mind: An Expanded Bergsonian Perspective.” *Understanding Digital Events: Bergson, Whitehead, and the Experience of the Digital*. Ed. David Kreps. London: Routledge, 2019.
20. We do not mean to imply that all dualities can be eliminated from Bergsonian philosophy. Although the duality of ontological entities is out of the question, the duality of two ‘tendencies’ is explicit in *Creative Evolution*. Even in *Matter and Memory*, I think that the duality of the two memories – motor memory and independent memory – is irreducible. The integration depicted here is of the contraction and the projection, both belonging to the one side of the duality. *Matter and Memory* certainly shows an integration in terms of the rhythm of duration or timescale, but this would not necessarily explain how motor learning is possible. I believe that the nature of ‘motor memory’ requires a separate paper.
21. “All division of matter into independent bodies with absolutely determined outlines is an artificial division” (Bergson, 259/220). “The reality of matter consists in the totality of its elements and of their actions of every kind” (Bergson, 30/35). Perception, on the other hand, consists in filtering out the ecologically irrelevant from this whole.
22. However, with regard to its organization, systems are logically independent of each other since they are defined by the way the body taken as a centre organizes its own reactions toward the world. In other words, it is not possible to ‘derive’ one system from the other. “Neither of the two systems is implied in the other, and each of them is sufficient to itself.” (Bergson, 15/22)
23. This does not mean that our spatial localization, where a reflective judgement intervenes, is always correct, which differentiates Bergson’s view from a dogmatic naïve realism.
24. In fact, the temporal extension *conditions* the spatial extension of the perceptual system, not the contrary. This is because acquiring a remote perception such as vision makes no sense unless temporally prolonged behavioural controllability had been realised. Thus, “perception is master of space in the exact measure in which action is master of time.” (Bergson, 23/29) This is also thought-provoking when considering the Cambrian explosion.
25. Again, note that it is not the case that there is temporal extension first and then contraction.

This is because an increase in the timescale of a biological system is, from an internal point of view, nothing but a transition to a higher degree of tension, though the words ('extension' and 'contraction') sound contrary. Regarding this apparent inversion, see Hirai "The Thickness of the Present" in Hirai, Fujita and Abiko, *The Anatomy*, 175-203.

26. Human beings flourish through their intellectual diversity and creativity, thanks to the greater expansion of the system's available resources and the extremely precise selection from which the memory-images are drawn.

27. As for the fusion emergence, see Paul Humphreys, *Emergence: A Philosophical Account*. Oxford: Oxford University Press, 2016, 70-91.

28. This is *not* an 'epistemic' timescale arbitrarily applied by an external observer. It is fundamental to distinguish between 'intrinsic' and 'epistemic' timescales here, because time, represented in the form of a mathematical continuity, is for Bergson nothing more than the product of an *ex post facto* spatialisation. Unfortunately, this would require a lot more pages and would be beyond the scope of this paper. See Yasushi Hirai, "The 'scale intrinsic' temporal experience and the problem of the mind," *The Mystery of the Present: A Critique of the Spatialization of Time*. Ed. Kunihisa Morita. Tokyo: Keiso Shobo, 2019. Regarding the *intrinsic* and *epistemic* timescales in physics, see Annick Lesne, "Time Variable and Time Scales in Natural Systems and Their Modeling" *Time of Nature and the Nature of Time*. Eds. Christophe Bouton, Philippe Huneman. New York: Springer, 2017, 56.

29. "It is enough that their heterogeneity should be, so to speak, sufficiently diluted to become, from our point of view, practically negligible." (Bergson, 238/203)

30. As is well known, Bergson certainly argues that the mental is a greater than the physical in its complexity, but that does not immediately entail a non-naturalistic emergence of the former. It is important to understand that his *extended naturalism* is framed by the "memory" in the sense of temporal extension. The events that have occurred once in the universe are not discarded for nothing, but rather retained by those certain systems which have a larger temporal extension. Cf. Hirai, "The Thickness of the Present", "Panqualityism" and "Event and Mind."

31. Henri Bergson, *Time and Free Will*. Trans. F. L. Pogson. London: George Allen & Unwin, 1910, 186.

32. For a panexperientialist interpretation of causal action, see Dainton "Being, Dreaming and Seeing", 126.

33. Note that the distinction between the intrinsic and the extrinsic and that between mind and matter are independent of each other. On the one hand, extrinsic (relational) characterisation is as possible for the mind as it is for matter (quantitative exposition of contraction, relative arrangements of planes of the inverted memory cone, etc.), and on the other hand, the internal perspective is as open to matter as it is to mind. In other words, *there is a conceptual torsion between matter as quantitative and mental as qualitative*, and, therefore, the contraction should not be interpreted as something that aggregates quantities to make a quality. Bergson seems to have developed this understanding from *Time and Free Will* to *Matter and Memory*.

34. "On répugnera peut-être à l'emploi du mot si l'on y attache un sens anthropomorphique." In the English translation, the pronoun "y" is taken by the word "consciousness", not "memory".

35. Henri Bergson, *Duration and Simultaneity*. Trans L. Jacobson. Indianapolis: Bobb Merrill, 1965, 48 [*Durée et simultanéité*, Paris: PUF, 1968, 46].

36. Bergson, *Duration*, 44 [41].

37. Bergson, *Duration*, 65 [66].

38. For a change to happen, the precedent and the subsequent must neither be exclusive nor be equivalently coexistent. Bergson's core proposal can be seen as a strategy of avoiding the McTaggartian contradiction by introducing temporal *aspects* (perfective and imperfective) rather than *tenses*. See the important analysis of Naoki Sugiyama, *Bergson, auscultateur de l'expérience*. Tokyo: Sobunsha, 2006, and Hirai, "Event and Mind".
39. Bergson, *Duration*, 48-49 [46].