

From zombie to man

How Bergson's *Matter and Memory* reconnects
consciousness to life

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List of abbreviations:

- MM – Matter and memory – Bergson, H. (1896/2004). *Matter and memory*. Paul, N. M. and Palmer, W. S (trans.), Dover philosophical classics, Mineaola, New York.
- TFW – Time and free will – Bergson, H. (1888/2014). *Tijd en vrije Wil*. (Eng: Time and Free Will). Holierhoek, J. (trans). Boom, Amsterdam. Bergson, H. (1907/1911). *Creative evolution*. Mitchell A. (trans). The Perfect Librery, New York.

I recently got a copy of *Seven Brief Lessons on Physics* (2014) by the famous physicist Carlo Rovelli. It's a brief little introduction into the ideas of modern physics and some of its recent developments. The strange thing about the work however, is that – contrary to what the title makes us believe – the book contains only six lessons on physics. The last lesson is on 'ourselves' and it asks the question how our human reality, a reality of "tears and laughter, gratitude and altruism, loyalty and betrayal, the past which haunts us and serenity" (Rovelli, 2014, p. 74), comes forth from or fits in with the quanta from which the universe is built. Like Rovelli I come from a mathematics and physics background and like Rovelli this mystery, the mystery of the mind does not escape me. In the face of the success of modern physics on the hyperfine scale of fundamental particles or the grand scale of cosmos, the question closest to home remains the most mysterious.

The current essay aims to engage with the above question with the work of late nineteenth, early twentieth century philosopher Henri Bergson. However, to engage with, will not mean to answer. It will mean to transform. In line with Bergson's general method, the aim is to expose the above question as a false or badly posed question: our conception of the mind can never fit in with what we understand by the quanta of the universe. Instead, a shift in our ontology - in what we understand by being at the most fundamental level – is needed in order to formulate a sensible relation between matter and mind.

The motivation for this enterprise is twofold. The first of which is more personal, the second of which has a more general, and in some sense scientific, application. The first is to attempt to free thought from its mechanistic tendency, to attempt to think a world which is not pure quanta of information. I believe such thought is completely disconnected from life. While for some a philosophy of life disconnected from a scientific theory of the universe might function perfectly fine, for me it does not. It is in this light that the choice for the philosophy of Bergson becomes clear: the goal of his philosophical project very closely resembles this one. The second motivation for this reversal in the question of the mind is that it both helps to expose false questions and help us to formulate new, interesting research questions for the study of our mind. Bergson's thought is wildly original and has only been rediscovered in recent years after being neglected for the latter half of the previous century (at least in the Anglo-Saxon world, Ansell-Pearson, 2018, p. 1). As research in experimental psychology experienced a huge boom, Bergson's work is sure to provide new insights. In this regard, as Ansell-Pearson writes in his recent commentary on Bergson, *Matter and Memory* is a work we are catching up on (Ansell-Pearson, 2018, p. 90).

In order to reformulate the question of mind and matter, a better understanding of the question is needed first. While one could spend one or more lifetimes precisely studying this question, for the current essay a snapshot will suffice. This snapshot will consist of physicalism and Chalmers challenge to physicalism. Physicalism is a meaningful place to start, as it is the dominant position in our intellectual climate (Stoljar, 2017, §17). It is thus *the* position to challenge and as such my reading of Bergson's critiques on other theories of mind will mostly focus on the physicalist one. Next the focus will be on Chalmers challenge to physicalism. The choice for Chalmers has a two-sided purpose. Firstly, I believe Chalmers' argument provide the strongest challenge to the physicalist theory of mind and will be used to argue the need for an alternative conception of the relation of mind and matter. Secondly, his formulation of an alternative theory of mind – which I think is unsatisfactory - shows in some sense the need for a radical shift in ontology. Chalmers will thus serve here mostly as a steppingstone for Bergsonian critique on - and transformation of - physicalism.

Chapter 1: Physicalism and Chalmers' challenge to it

1.1 What is physicalism?

Physicalism is a metaphysical position which states that the whole of the being can be explained with the models of physics. Physicalism is thus quite simple in form, but since the modern scientific theory is quite complex its content is not. Firstly, we note that physicalism is reductive. All seemingly non-physical phenomena, such as love for example, can be explained through physiological processes in the human body. The physicalist claim is then that such a reductive explanation fully explains the non-physical phenomenon. Secondly, we note that physicalism is not a static theory. Since the fundamental theories in physics are open to change, so are the exact contents of physicalism. It's end goal can be thought of as a 'theory of everything', a set of equations which explains the behaviour of the fundamental particles on the smallest scale. Any macroscopic phenomena would then be explained as emerging through the complex interaction of these fundamental particles.

To see how this form of explanation works, let us look at the two examples of heat and life. Heat is interesting, since it forms the blueprint or ideal case of the physicalist explanation of macroscopic properties through models based underlying microscopic particles. By assuming many atoms in a vat all moving at similar speeds and able to bounce on the walls and each other, heat is taken to be the average speed of the particles. Through statistical methods other behaviours of heat, such as how it relates to pressure or how it transfers to metals, can be rigorously deduced from this model. All the results of the macroscopic theory of classical thermodynamics can be explained from the many-particle models (the study of which is called statistical mechanics). For life the case is slightly different. Whereas in the previous example all behaviour could be rigorously deduced from an underlying microscopic model, for life there remains mostly an argument and macroscopic experimental results. The molecules in living organisms are so complex, that fully deriving the results based microscopic models is computationally infeasible. In *the selfish gene* Dawkins ([2016]) sketches the general form of the argument¹. When carbon, water and nitrogen mix under extreme heat and pressure conditions, such to be found near volcanic geysers on the bottom of ocean, many complex particles are formed and then quickly deformed again. Under this ongoing change what remains are the molecules that remain stable for a while and can copy themselves, before being deformed again. Life is then explained as the complex molecules most stable in a constantly changing universe. It is a consequence of what Dawkins calls *the law of the stable*: in a changing environment the molecule compositions best adapted to change, i.e. able to copy and spread most effectively, are what remain. All insights of Darwin's theory of evolution follow from this basic law. Physicalism claims that (for now) this explanation of what life is, is not only scientifically sufficient, but also metaphysically exhaustive to explain what life is. There is, metaphysically speaking, nothing more to life.

From these examples we can now see how physicalism aims to explain consciousness. Firstly, it uses the successes of statistical mechanics (and similar fields) to legitimize the claim that macroscopic phenomena not present in the microscopic may emerge from their many particle interactions. For the simple (homogeneous) systems of gasses and metals, we can even show this emergence with complete mathematical rigor. Secondly, it takes the argument in explaining life to legitimize the idea that while conscious and non-conscious things seem qualitatively different, the former can possibly be explained in terms of the latter

¹ The theory of Dawkins in its original state has obviously faced criticism, but the general form of the argument, I believe, still stands.

as a similar feat was achieved with explaining life in terms of non-living things. These two examples make that, although no theory is yet able to (fully) explain consciousness, a future theory might.

1.2 Chalmers' philosophical zombies as a response to physicalism

Now, as noted above, physicalism is a metaphysical position. This means that the philosophical debate does not challenge any of the scientific claims, but only the claim that these theories are metaphysically exhaustive. Chalmers' arguments aim to show to us that there are aspects to consciousness which cannot be thought of as emerging from these microphysical facts (Chalmers, 1996, p. 93-94). The crucial point here is that Chalmers does not claim that there is some non-material 'spirit being' to be added in order to obtain a consciousness, but that if we were able to (physically) construct a conscious system then this would not completely explain what consciousness is. Conscious experience is simply of another form or order than what the physicalist theory explains.

Chalmers' most famous argument is the argument from philosophical zombies. He argues that it is logically possible for us to imagine a world physically identical to ours, but where the inhabitants have no conscious experience (Chalmers, 1996, p. 96). They are all dark inside (Ibid.). This is the philosophical zombie world. Although in such a scenario conscious experience might arise, the point is that the possibility of the zombie world is logically coherent (Chalmers, 1996, p. 95). He compares it to imagining a mile-high unicycle; while it may be practically impossible to build such a thing, to imagine its existence is consistent with our description of the world (this is what he means when he writes 'logically possible', Chalmers, 1996, p. 96). The way to attack the argument is thus not to claim physical impossibility of the thought zombies, but to show that their existence is logically incoherent. This means that there would need to be a conceptual contradiction lurking in the description of our zombie twins. Since there are no conceptual tools in the physicalist arsenal to show this contradiction and it is thus logically coherent to imagine such zombies. The physicalist theory is therefore not sufficient to explain consciousness.

The other arguments from Chalmers argue for (the existence of) the same explanatory gap. Shortly summarized they are the following (from Chalmers, 1996, p. 99-106). (1) We can consistently imagine two persons having an inverted conscious experience. Chalmers means here that we can logically imagine that when A consciously experiences (what I see as) blue,



Figure 1: Calvin and Hobbes on Zombies (by Bill Watterson). Taken from (Chalmers, 1996, p. 95). Chalmers uses this cartoon to indicate that although his thought experiment refers to zombies, these are not movie-zombies. In light of the thought experiment, we have here a case of 'zombieception': philosophical zombies acting like zombies.

B consciously experiences (what I see as) red, and vice versa. (2) There is an epistemic asymmetry between the physicalist explanation. Contrary to other things in the universe, all the physicalist information does not lead us to conscious experience, but our own individual experience does. (3) Furthermore, even if we knew all there is about the physical description of light, we would learn something new from experiencing colour first-hand. The conscious experience is of a different form than scientific knowledge. (4) The form of analysis of scientific explanation is mostly functional. This however misses what it means to have a conscious experience, which is mostly defined by a certain feel, not by its function.

For proper clarity on the form of these arguments two remarks need to be made. The first is that his arguments of a zombie world or an inverted spectrum being a logical possibility might at first instance seem like a weak ground to base a critique on. Are fantasy creatures or magic spells not thinkable as-well? Why does Chalmers not deem them logically possible? The difference between the two is although they both make a claim about what is physically possible, we can dispel these fantasy scenarios based on our current scientific theories. In order for it to become thinkable for a dragon to fly, it would need comically large wings and a comically large calorie intake in order to sustain itself. Most magic spells also cost such large amounts of energy that they therefore become unfeasible. The crucial difference with the thought-zombies, is that for them it is unclear on what theoretical ground the physicalist could dispel them. The zombies or the inverted spectrum do not make any difference to the energy-balance of the world. The point of Chalmers is that it is nowhere clear what rules of physics would be broken in the zombie world (Chalmers, 1996, p. 109-110). This is why the zombies are 'logically possible' and regular fantasy is not: the first fits the physicalist frame, the second does not. The second point is that since physicalism is not completed, the argument remains somewhat open-ended. Chalmers is much more agnostic here than he is sometimes made out to be (as for example in Doormalen, 2010, p. 159). His standpoint is that in the current physical theories there is an explanatory gap between the theory of fundamental particles and consciousness (Chalmers, 1996, p. 118-120). If the physicalist would want to rebut the argument, he would need to show how the thought-zombies are inconsistent for the current theories. He does however repeatedly argue that these future theories are unlikely to fill the explanatory gap, since it is unlikely that such a huge structural shift in the form of explanation provided by science is to take place (Chalmers, 1996, p. 118-120 p. 163). Since there is no current rebuttal and it will most likely never come, it is most sensible to conclude physicalism to be philosophically incomplete.

So where does that leave us with respect to consciousness and its relation to physicalism? Chalmers concludes his philosophical investigation with a dualism, which he calls naturalist dualism. The dualism divides consciousness in two aspects. One can be described through physicalist cognitive-neuroscientific methods, the other requires a new form of explaining. Questions such as of how we have deliberate control over our movement or what the difference is between wakefulness and sleep can be answered by the physicalist method. He calls these problems 'the easy problems of consciousness' (Chalmers, 1995). The question of 'what it is like', the qualitative aspect of consciousness, remains unsolved by our current scientific methods. These question he dubs the hard problem of consciousness (Chalmers, 1995). In *the Conscious Mind* (1996) he proposes the formulation of 'psycho-physical' laws, a set of laws fully distinct from our current natural laws, which would aim to tackle the hard problem of consciousness. His naturalistic dualism would then form the basis of a new line of research. However how these laws should be formulated or how the research should be conducted, is something which Chalmers still develops in his current work (for example in Chalmers, 2020).

As stated in the introduction, Chalmers will be used in the current essay mostly as a steppingstone for Bergson. Why? What connects Chalmers to Bergson? Why should we not just accept Chalmers' naturalist dualism? Firstly, what connects the two authors is apparent in a recorded lecture from 1912 in which Bergson produces an argument somewhat similar to that of Chalmers. There he compares a mind reconstructed from what is found in the brain to a reconstruction of a play purely based on the movements of the pantomime²; a picture which he finds insufficient as there is more to the play than only the movements of the play (namely emotion, beauty, etc.) (Bergson, 1912/1920, p. 53). Much like Chalmers' zombie, the actors in the play lack the qualitative aspects of life. While both arguments aim to establish the same point, Chalmers' argument targets exactly where physicalism lacks and as such, I have used his version of the argument. Secondly however, Bergson would distance himself from Chalmers' natural dualism and psycho-physical laws. He would reject natural dualism as a dualism for Bergson always is an intermediate step (Deleuze, 1996/1998, chap. 1). Dualisms are never satisfactory as a conclusion. Dualisms help us to express the true differences of kind in the world, but they can always be resolved by expressing their interaction in time (Ibid.). We will see how Bergson achieves something similar for mind and matter in the next chapter. Bergson would reject the idea of psycho-physical laws on the grounds that the qualitative for Bergson cannot be dissected into smaller pieces without losing some its content. A formulation of psycho-physical laws is thus impossible as we could never produce the isolated facts needed to form a theory (MM, p. 246). From a Bergsonist point of view we thus conclude that Chalmers argument are useful in establishing the need for a different theory of mind and matter, but that his solutions or the positive aspects of his critique are unsatisfactory.

Before moving on to Bergson's reformulation of the problem, let us recap what has been established so far. We started off with a short investigation in the physicalist approach to the problem of consciousness. Physicalism is a philosophical monism which aimed to explain all macroscopic phenomena, including consciousness, as phenomena emerging from the complex of fundamental particles. Although there is currently no clear unifying theory of consciousness, it bases its argument for the possibility of such a theory on the previous success of explaining thermodynamic phenomena and life in this way. Chalmers then challenged this claim by showing that no physicalist theory can ever explain the logical impossibility of the thought zombies. Nowhere in the physicalist theories does a qualitative, 'what it is like' aspect arise. He thus concluded that a new 'naturalistic dualism' should form the new basis for research into the problem of consciousness, which should result into psycho-physical laws to complete our description of reality. These conclusions were deemed unsatisfactory as the qualitative aspects of consciousness cannot be described as stemming from atomic facts and a dualism should always leave us unsatisfied. Therefore, we now move to Bergson's reformulation of the problem of mind and matter.

² pantomime is a form of visual theatre, i.e. mime.

Chapter 2: Bergson's reformulation of the problem of mind and matter

In this chapter the aim is to understand Bergson's reformulation of the problem of mind and matter as presented in his 1896 work *Matter and Memory*. This argument is called a reformulation as it aims to shift the question away from a mind-matter or quantitative-qualitative dichotomy (which are fundamentally irreconcilable) towards a reconcilable dualism of pure perception and pure memory. Each step of the argument aims to establish one of three things (following Bergson's general method of intuition as presented in chapter one of Deleuze's *Bergsonism* (1966/1991)). (1) To show that our current conception of the relation between mind and matter is badly stated. It needs both a *Deus ex Machina* to be completed and produces false questions. (2) To articulate the true difference of kind between pure perception and pure memory. In order to establish this true difference, we first need to show that there is no difference in kind, but one of degree, between matter and perception. After having dissolved this false difference, we aim to establish the true difference between perception and memory. (3) To show how the problems disappear or are reconciled, if they are posed in terms of a continuous evolution in time. While perception and memory are initially presented in opposition, their interplay becomes possible in the continuous evolution of time: perception forms memory, memory shapes perception. It is then also in this reconciliation in time that argument achieves what it sets out to do: "[...] to lessen greatly, if not overcome, the theoretical difficulties which have always beset dualism [...]" (MM, p. vii).

2.1 Ontology

The problems surrounding our conception of consciousness stem for Bergson from the most fundamental philosophical level: ontology. This is an important point for Bergson, as in the renewed introduction from 1908 - as soon as he gets the chance - Bergson stresses how the confusions are caused by false conceptions of what matter is (MM, p. vii, viii). Bergson expresses his different ontology by the use of two major concepts: the 'images' and 'duration'. If we are to follow Bergson's argument on the interaction of mind and matter, we should thus first become familiar with these two concepts.

We start with the images. The images are what we see when we open our eyes, inhale our nostril to smell and sharpen our ears to hear. We perceive them when our eyes are open, we do not perceive them when they are closed (MM, p.1). Images react upon one-another and seem to follow constant laws of nature (Ibid.). The aggregate of these images is what makes up the matter around us (MM, p. 8). Bergson stresses that these images should be as much in line with our common-sense idea of ontology as possible (MM, p. viii).

With respect to our consciousness however, Bergson becomes more explicit. While previous philosophers have also introduced basic ontological units – think of Russell's sense data or Locke's sense impressions - Bergson places his 'images' explicitly in relation to these previous conceptions. He states the images are "halfway between the 'thing' [of realist] and the 'representation' [of the idealist]" (MM, p. viii). The mind-body problem is according to Bergson in large part caused by these two false conceptions of what matter is. The 'thing' exists so independently of us that it holds the power to produce perceptions independently of their being. This leads to the conclusion of the form: 'all we see of something are the light rays hitting our eyes', which, aside from being really opposed to common sense (we believe to experience objects, not light rays), will cause problems when moving towards the mental. In order to keep the systems of 'things' causally closed, there is no room for consciousness to be the cause of anything. In the realist case one necessarily ends up with a *'Deus ex Machina'*

hypothesis such as epiphenomenal consciousness (MM p.15) in which all representation has no importance and there is thus no room for any consciously steered action. Hence an unsolvable mind-body problem. The 'representation' of the idealist leads to an opposite problem. With 'representation' Bergson refers to the ontological position that all something is, is what we experience of it. The problem here is that being becomes so dependent on us that not only the order in world becomes hard to account for – Bergson claims that one (again) needs a '*Deus ex Machina*' such as Kant pre-established harmony to explain this order (MM, p. 16) – the world also lacks any real centre of action, meaning there is nothing to distinguish my body from the rest of the world. Bergson introduces the images in opposition to these two views and with them aims to get back with his conception to common-sense (MM. p. x). Thus for the images we know that they exist independently of us, that we experience the images in themselves - not in the brain (or anywhere else) - and that they follow constant laws of nature.

Duration is Bergson's second ontological concept, which is his conception of time. At the centre of all his thought stands his critique on the mechanistic conception of time as a distinct sequence of moments, rather than as a continuous flow (which duration is). For Bergson the first form of time can appear artificially by focusing our attention on impressions, separating them and then sowing them together as 'beads on a thread' (CE, p. 3). This conception of time is best thought of as a flipbook: being is essentially a sequence of separate spatial slices. Space, or more precisely our conception of space (Bergson follows Kant here (Ansell-Pearson, p. 60)), is then "a principle of quantitative differentiation that enables us to distinguish a number of identical and simultaneous sensations from one another, and covers up the 'heterogeneity that is the very ground of our experience' (TFW, p. 97) " (Ansell-Pearson, p. 61). Thus, by slicing up time into separate slices of space, we are able to see the difference between things as a difference of degree and thereby compare them quantitatively. Through these quantitative differentiations we are able to count and by extension do science. Counting is only possible in a spatial slice of time as it relies on the separation of individual units (TFW, p. 56). If we could only regard the whole as ceaselessly changing, we would, while counting, not be able to hold the image of the previous units in our minds (Idem.) and would never be able to go beyond the number one. This reduction or artificial separation is thus exceedingly useful, even if it is artificial (MM, p. 246). Problems start to arise however when we take this artificial conception of time and forget the difference in kind, the heterogeneity of impression, inherent to the true evolution of time. The full or true conception of time does not consist of moments, but is a continuous flow of ever changing feelings, ideas and volitions (CE, p.1). Bergson call this evolution 'duration' to contrast his conception to the mechanistic idea captured by 'time'.

To practically illustrate what Bergson means with duration, we turn to music (cf. TFW, p. 35). The evolution of a piece of music over time can be spatially presented by noteheads on staves indicating the notes to be played and their length, but the experience of listening to (and performing of) music is not at all captured by this presentation. We do not experience the notes of a song as separate moments, but as forming a whole over time. This why music pieces can contain dissonance (disharmony at the start of a sequence only to resolved into harmony later). If the musical experience existed of separate moments, we would simply always skip the disharmony. However, we don't. Our experience flows with the movement of the sound, thus making us experience the harmony differently if we start with a form of disharmony rather than if we would start in harmony already.

Centres of real action

Among the aggregate of images and in duration there are certain special systems, which do not behave like the other images. These are the so called 'centres of real actions'

(MM, p. 44). They entail the bodies of living creates and in particular our own bodies. These images are special as they do not follow the constant laws like other images but add something new with their actions (MM. p. 2). There is thus for Bergson an ontological gap between biology on the one side and chemistry and physics on the other side.³ Biological creatures act and perceive, regular physical systems do not.

In the work coming before *Matter and Memory*, Bergson discussed the problem of free will. His reformulation of this problem shows us why and how this centre of real action add something new with their actions. For Bergson our freedom stems from the observation that we simultaneously interpret and act in the now. Our freedom is a not conscious freedom, but a creative one. The mechanistic idea of free will relies on “the illusion that there is an impartially active ego or self that hesitates between two solidified courses of action” (Ansell-Pearson, 2018, p. 66), which is an illusion Bergson seeks to expose. Our freedom, according to Bergson, stems from the observation that our actions take place in indeterminacy of the continuous evolving of time, an evolution which cannot be broken up in fixed courses of action. It is this illusion of fixed courses of action of mechanistic philosophy which lead to our idea of the will as either fixed (determined) or completely random (free). The crucial idea’s that Bergson takes from this analysis is that the ‘real’ action of humans (and animals in general) cannot be broken up in different moments but is something which evolves continuously in time.

2.2 The theory of pure perception

Using these three ingredients, we can move towards the first part of Bergson’s dualism: pure perception. Pure perception is a state of being in which memory does not play any role. Although this pure perception “exists in theory rather than in fact” (MM, p. 26), it is useful to examine its direct relation to matter. Bergson aims to show that between pure perception and matter there is only a difference of degree. This means there is no ontological gap between the two, but both are of the same ontological form. To show this, Bergson presents two arguments. (1) What we perceive are the images (or the things) in themselves, not representations of them. Bergson uses this point to show that we stand in direct relation to the world we act in and there thus cannot be a difference of kind between perception and the system of images. (2) Perception is for action, not for knowledge. The proper model of perception is a protoplasm (a small unicellular organism) contracting, not a camera taking a picture. Perception is thus what makes a human being (or animal in general) interact with matter (as the aggregate of images). Although for Bergson human action is not uniquely determined by perception, it is dependent on it. Through perception man influences and is influenced by its environment and this reciprocal interaction shows that that perception and matter only differ by degree. Thus, in order to argue that perception differs from matter only by degree, we have to investigate these two arguments.

³ This might now seem like a somewhat open end in the current argument. Bergson’s work coming after *Matter and Memory*, *Creative Evolution*, directly addresses the question of why biology should be considered as ontologically different from physics and chemistry full on. An exposition of these arguments lies outside scope of the current project and such this will remain open ended.

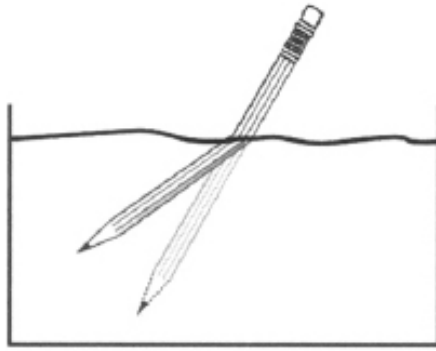


Figure 2: The illusion of the stick bending in the water. The bend image would for Bergson be a virtual image, as it has no materiality, but can induce action. Taken from O'Reilly (2020).

First, we deal with the argument against representations. Bergson's argument is formal here. Firstly, he notes that things must be either in representation or in the things themselves. They cannot be in both, as we would have to perceive the things in two ways, which we do not. There can also not be a mix of the two as Berkeley argued in his case against the primary-secondary quality dichotomy (Bergson calls this achievement "a great step forwards in philosophy", MM. p. ix). Now if the things are representation, we know that these representations must be the result of processes of the brain: the brain must create the images. But the brain itself is an image among images. Now as the brain is a part of the whole which would then contain the whole and we would get a contradiction (p. 10). Therefore, images cannot produce images and what we experience are the things in themselves.

When we follow this argument one important question naturally arises: what about illusions? This question is important as our notion of the objective or reality is in large part dependent on illusions, as illusions are (in a materialist ontology) the very definition of what is *not* real. Think of the famous example of the stick bending in the water. The kink at the surface is not real. Instead of concluding a real-illusion dichotomy on an ontological level, these optical illusions introduce for Bergson a fundamental new idea: the virtual. The virtual is a notion taken from (the physics theory of) optics in which virtual images occur when light is bent in a specific way. Although we can perceive, measure and even take pictures of virtual images, they cannot interact with material objects. Bergson describes their ontological status as real, but not actual. With this he means that although a virtual image is not material like a regular image and is thus not actual, it does have the possibility to induce movement and as such can be very real. Illusion is thus in Bergson's ontology not the not-real, but he uses their in-between status (between being and not-being) as a leading analogy of what perception is. Bergson writes: "perception therefore resembles those phenomena of reflection which result from impeded refraction; it is like the effect of a mirage" (MM. p. 30).

That we perceive the things in themselves stands in close relation to the second shift Bergson makes: perception is mainly for forming, selecting and shaping action, not for creating knowledge. Bergson is again very explicit here:

"[...] the nervous system is in no sense an apparatus which may serve to fabricate, or even prepare, representations. Its function is to receive stimulation, to provide motor apparatus, and to present the largest possible number of these apparatuses to a given stimulus. The more it develops, the more numerous and the more distant are the points in space which it brings into relation with ever more complex motor mechanisms" (MM. p. 20-21).

As already indicated above, Bergson stresses that we too often think of perception as the taking and developing of picture with a (nineteenth century) photo-camera (MM, p.31). We build up a universe from atoms (or more fundamental particles) and then expect to find some mysterious unknown chemical and physical process which is developed into some static picture (Idem.). It is no wonder then that this process remains to be mysterious. We can however track an impulse from a sensory-organ to the muscle in which the response is acted. Bergson thus stresses that in its most basic form perception is like a protoplasm which contracts when pricked (p. 17), with our human perception being more complex.⁴ Bergson also uses the analogy of an electronic telephone exchange (think early 19th century telephone here) for the nervous system and brain (between which is there is only a difference of degree) is that (MM, p. 19). The whole nervous system and brain are (only) complex reflexes which react to their environment.

So what now exactly is pure perception? As there is not yet room for delay and memory in the action, pure perception is uncontrolled, direct reaction to stimuli. Like the protoplasm which retracts when it is pricked, there is no difference in kind but one of degree between the perception and the action. The action thus does not follow a perception-representation-knowledge-plan-action routine. Pure perception does in no sense prepare action or even control action. A world without memory is one in which there are only images acting on one another, there is no delay, no memory which causes a subject to experience subjectivity. The state of pure perception is for Bergson a pathological, schizophrenic state of uncontrolled unperceived action. Although this state is unnatural, it does help us to achieve what we set out to achieve: in the state of pure perception there is not a difference of kind but one of degree between matter and perception.

Consequences of the theory of pure perception

Although this shift might seem simple enough, it has large consequences, of which we discuss two here. These consequences, especially the first, may not seem as shocking nowadays but do show how incredibly far ahead of his time Bergson was with ideas of pure perception.

A first consequence is that perception never adds anything to the world, but only selects from it. Bergson argues here as follows. As the brain only connects actions to responses, it cannot add anything to what it perceives. Moreover, as perceptions are mostly for action, what we call ‘perceptions’ are actually only selections of the totality of images. What we perceive is what we need to come to action, and not more. Nowadays this might not be as shocking, as most of u will have been fooled once by the gorilla walking behind the basketball players.⁵ For Bergson this is the characterizing feature of consciousness in relation to external perception (MM, p. 31). Consciousness is what is illumined or highlighted among all that can be perceived and we can even actively steer what we illumine. It is then no accident that the famous test asks us to count the number of throws of the basketball players. It makes us filter out everything expect the ball. So much so that we even miss a man in gorilla suit waving at us. To see how revolutionary this idea is of Bergson, kindly note that the study of selective attention started in the 1950’s and really took off in the 1990’s (Mcload, 2014). Bergson wrote in 1896: “What you have to explain [about] perception is, then, not how it arises, but how it is limited [...]” (MM. p. 34).

A second consequence of this theory is that it helps us to dispel a number of illusions, two of which we discuss here: the mental sphere and the moment of consciousness. The

⁴ Note how this also brings human perception in line with animal perception. In this view there exists only a difference of degree between human and animal perception.

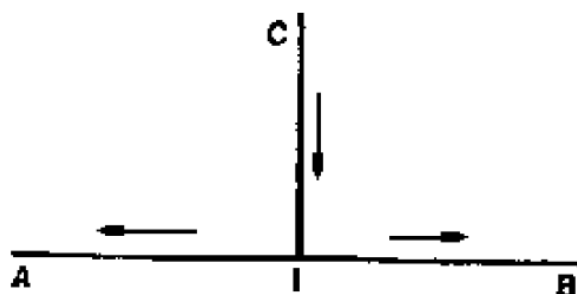
⁵ If not, it is called ‘the monkey business illusion’. See it here https://www.youtube.com/watch?v=IGQmdoK_ZfY.

general idea causing problems here is of the form: we start from a thing in matter (atoms), from there move with light rays to the organ of perception – the eye – and follow the electric signals to the brain, where, as by magic, a representation of the thing is born a new in the mental sphere (MM, p. 32-33). The first illusion is the idea of the mental sphere as an amorphous geometrical free space. Here the mental is thought of as unextend space in which our representations can take their place. This idea of the mental in this form is wrong as the bridge between the mental and matter becomes unbridgeable: no chemical process – however complex – can transform the representation laden with material properties into this geometrical free space. Secondly, there is the illusion that we could isolate consciousness as a moment of time, that we could track an impulse from matter to electrical signal and then exactly pinpoint the moment at which it become a conscious perception. This moment is an illusion as perception is in principle for action and is something which exists in duration. There is thus no isolated moment of conscious perception. As there is no moment of consciousness, there is also no single place for it. In response to the question of where Bergson would simply reply: the body. As the whole of the body is what makes action, it also the whole of the body that perceives. There is no photo-room in the body (which is again the leading false analogy). The correct interpretation of the statement above is that the thing is not born again as representation but is only there as virtual image – simply in the same way an image can be virtual in optics. In optics the virtual image can also be only of one form of object of which it is the image and is also not caused by a single element (the light, the lens or the object), but exists as a consequence of the whole. Similarly, there is thus no geometrical free-space and no moment of consciousness.

2.3 Memory

As noted above, Bergson aims to replace the tradition mind-matter dualism with a different dualism of pure perception and pure memory. The first part of the dualist left us with the state of pure perception, which was not representative for actual human behaviour: it was uncontrolled, direct response to stimuli. In order to recover a picture closer to human behaviour we need to add pure memory. Like perception with matter, pure memory is again a state of acting, of doing something, which is ontologically depended on memory. Thus, in order to understand this state of pure memory, we first need to understand what Bergson understands by memory.⁶

Memory for Bergson is the totality of all that has been perceived by the body. Memory is thus much more than what we can remember: it exists outside our conscious memory.



⁶ These terms of memory and pure memory are confusing so best to keep them clearly apart. Memory is like matter, it is what exists. Pure memory is like pure memory state of being in duration.

Figure 3: A schema from Bergson to indicate the change in ontology he proposes (MM, p. 184). Instead of simple material plane, we have now the 'extra dimension' of memory.

Bergson's argument or motivation here is that again no part of being can create another part (without giving us problems) and as such memory should be considered as existing independent of what we actively, consciously remember. While this might sound strange, Bergson emphasises that the idea of things existing independent of our conscious 'illumination' is very common. He compares the existence of memory with that of the other rooms (then the one you are currently in) or with the other part of the city (MM. p. 183). Although these room or streets are unperceived in the now, we still suppose they exist.

A consequence of the above is that for Bergson memory is not stored in the brain. This might seem strange to us, but for Bergson the brain, which is part of matter, can never create images. Since the present does not contain the past, the brain – which exists exclusively in the now – can never contain the whole of past impulses. The brain therefore does not contain memories. The brain connects what is stored in memory to the present action. The role of the brain is here the same as in the case of perception: it is a complexification or expansion of the reflex function of simple animals. It connects impulses to actions. We have seen with perception that Bergson argued that the brain cannot create images. The same now holds for memory: the brain cannot create memory images but can only link them to present impulses.

Memory, which thus exists independent of being presently observed, has two ways to associate with present. It can form a recollection or memory-image and it can contract in the form of motor mechanisms or general ideas. Let us start with the first. Recollecting a memory-image is what we normally associate with memory, namely actively trying to remember a given state or previous event. It functions much like perception, by selecting from what presents itself to it and focussing on it, we can create a virtual image. Important in the formation of this memory-image is the delay. As a human being has a larger action radius (than most simple animals), we do not only directly react to stimuli, but we are able to delay such a reaction. In this delay we enter a state of pure memory and it is then consciousness which selects from the many available images and memories. Bergson writes: "consciousness, then, illumines, at each moment of time, that immediate part of the past which, impending of the future, seeks to realize and to associate with it" (MM. p. 194). As with perception, pure memory has always its focus primarily on action, and again selects from memory based on what is needed for action. For memory-images we can thus form the pairs perception – matter and recollection – memory, which work by similar function but differ in kind as the present and past differ in kind.

This act of recollecting memory in the delay of action is what Bergson calls being in pure memory. As with the state of pure perception, it is a state which is removed from life. Whereas the state of pure perception was one of uncontrolled action and direct response to stimuli, the state of pure memory is one of pure delay (MM, p. 180). A man living in pure memory constantly sees past experiences, but never acts on them. Bergson compares a man living in the first state to a conscious automaton, a man living the second with someone who always dreams (MM, p. 201). Bergson uses the dualism between pure perception and pure memory to replace the tradition matter-mind dualism, but as we will investigate next, the former allows for clear form of interaction between the two.

Contractions: how pure perception and pure memory interact

As noted above, the past also associates with the present through contractions of past in the form of motor mechanism or general ideas, which is (in my opinion) the most powerful idea presented in the whole of *Matter and Memory*. It is these contractions which resolve the above dualism. The idea is that an unconscious motor mechanism of the body or the formation and application of a general idea in perception cannot be properly understood as isolated in the now but exist as the outcome of different impulses stemming from images

which are in memory (as they are not now anymore). As all these impulses exist in memory, we think of an action or idea as the contraction, the coming together, of these different impulses.

This description is exceedingly abstract, so let's attempt to fill it in with a concrete example of a motor mechanism, namely walking. Walking is something which (almost) everybody has learned during their life. It can (now, in adult life) be done without any conscious thought, but for a baby attempting his first steps it requires a large effort. Bergson now asks us to see our next step as something which depends on all previous steps; all the previous steps ring through in our current step. It is a contraction of the motor mechanism of walking. This mirrors a learning process: the first steps might take much mental effort and moments of active recall, as we repeat the process it becomes more and more unconscious. This idea then holds generally for all trained or learned motor mechanisms: all unconscious actions of the body are contractions of the past.

A second way in which Bergson applies this concept of contraction is the formation of general ideas. General ideas, such as those expressed by us in language and seen in perception, come forth from the interplay of memory and the intellect. The intellect both discerns in an image different elements and constructs from past images general ideas (MM, p. 209), two faculties which are of course in constant interplay. Important in this interplay are two remarks. (1) As perception is selective, it follows that what is contained in memory has necessarily many commonalities (MM, p. 207). General ideas are thus not simply constructed from what is common in memory but exist as a further discernment of commonalities based on what is useful in the present.⁷ (2) As the faculties of the intellect is what discerns, these general ideas are not part of the world itself but are created artificially. Their formation is a continually ongoing process and as such these general ideas are "unstable and evanescent" (MM, p. 210). It is this instability which we constantly experience in the use of language, as a word both refers to the present object and the many instances in memory at the same time.

Bergson shows the importance of the above idea when he writes: "*practically we only perceive the past*" (MM, p. 194, his italics). This statement should be somewhat surprising as we equated perception with the present and memory with the past. How does Bergson mean the above remark then? The seeming contradiction is resolved when he writes: "the pure present [is, can be thought of as] the invisible progress of the past gnawing in the future" (MM, p. 195). As we perceive distinct things, our perception is always endowed with many contractions of the past and as such requires a delay and thus no longer in the present. This is a shift in our usual conception of time, as we often take the present moment to have the most being, with the past (what we see to have been) and the future (what we anticipate to be) as depending on the now. Bergson reverses this perspective as he concludes that "nothing is *less* than the present moment, if you understand by that the indivisible limit which divides the past from the future" (MM, p. 193). All things for Bergson exist as contractions of memory and as the present is duration it does thereby does not contain things. The present can only be thought of as the limit of memory, devoid of things and memory and which thereby remain unperceived.

This concludes the action of the past onto the present, for completeness however its converse, the action of the present onto the past, should be considered. There are again two aspects. Firstly, as noted, memory is all that has previously affected the body. Perception thus forms what memory is. Secondly, what affects us in the present, triggers our recollection. This is what Bergson calls relaxations. As both the states of pure perception and pure memory are

⁷ For Bergson the interesting question in the study of this formation is thus how the intellect discerns what it needs (MM. 215). As with perception he leaves this question somewhat open to be studied. To my knowledge however in the case of memory, such research still has not been done. I believe this could thus form an interesting opening for further study, given the success of selective attention studies in the case of perception.

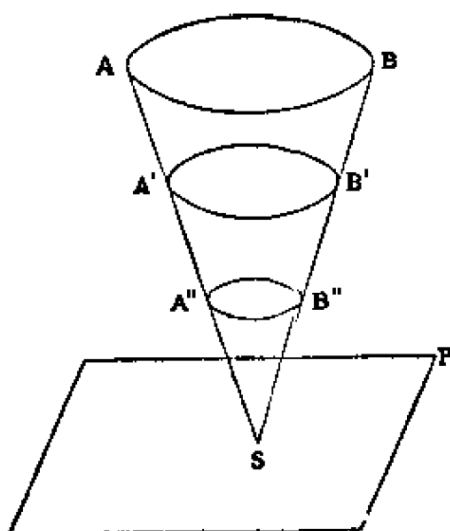


Figure 4: The famous 'image of the cone', from (MM, p. 211). It can help us to visualize Bergson's idea of expansions and contractions. The plane P indicates the present or matter (as the aggregate of images), S stands for the summit and represents the body (as contact between matter and memory) and the cone represents memory, with the plane AB etc. representing plane of memories. Now as Lawlor (2004, p. 48) indicates, the cone should be visualized in constant movement: from the summit to the base of the cone memories expand and contract and at the summit in the plane of the present the body acts and is influenced by the present.

unnatural, a more normal mind can be understood in terms of these relaxations and contractions (in terms recollections) which move us between these two extreme states.

The ontology with which we started has radically changed with the introduction of memory. Before memory we had an ontology which consisted of images and duration. The images and duration consisted of pure, indivisible change. In memory we recover a perspective with which we are familiar: a world consisting of things. While the present and memory differ clearly in kind, they do show a clear interaction: the present creates memory and memory contracts onto the present (which allows us to discern things and perform motor actions). Distinct, divisible things thereby arise as contractions of memory through the double action of the intellect. In this picture we then also recover what abstract thought is for Bergson: in the delay of action intellect discerns from memory more and more and thereby creates concepts more and more artificial.

2.4 Bergson's theory of mind and matter

To conclude this chapter let us revisit the argument and especially focus on the different philosophical shifts or innovations Bergson proposes to make the relation between mind and matter more insightful.

(1a) Shift from time to duration and (1b) shift from things to images. The philosophical shift at the fundament of Bergson's philosophy of the mind, is an ontological shift about the being of the world: there are no inner representations of matter, all sensations are 'out there'. All experiences form a continuous flow of qualitatively differing impressions. All sharp distinctions, both in time and in matter are artificial by nature. Bergson aimed to distinguish these two perspectives with the contrasting pairs of time-duration and thing-image. In both cases the first signifies a (conventional) ontology which consists of sharply outlined atomic elements, for example things, atoms, particles for matter and moments or events for time, and the second an ontology of continuous flow, in which the stream is not

divisible without introducing artificial boundaries. For Bergson the aim of philosophy should be to restore the contact of intuition to this reality of duration and images, and thereby go against the mechanistic-geometric understanding in terms of things and moments.

(2) The mind does not create, it selects. As the reality of duration and images contains every form of experience, especially the qualitative ever-changing aspect of experience, the mind no longer needs to create representation or qualitative experience from a conception of matter devoid of it. It can select from it what is necessary for action. It never has to create. This demand of the mind to create is what leads to many of the philosophical problems and false questions Bergson has aimed to expose. As creation by the mind leads to an existence of things on two levels – on the level of matter and on the level of the mind – these realities necessarily become disconnected, as I have aimed to illustrate with the illusion of the mental sphere and the moment of consciousness. By making consciousness only into a selective faculty, these problems sketched above do not arise, as all things exist on the same level, namely on the level of the images. It is in this sense that matter and perception differ by degree.

(3) The mind is geared towards action, not towards the creation of knowledge. Nowadays this shift is not as innovative as it was in the time of Bergson, as results from experimental psychological and argument from evolutionary biology show us that knowledge is not all what the mind is focused on. It is now common knowledge that things like sex and food are of way higher priority. In his time the formation of knowledge was of primary concern. While the point above does not add to our modern understanding of consciousness, it does give some legitimacy to Bergson's philosophy.

(4) Memory is ontological. As follows from point (2): the mind cannot create. This holds not only for representations of the now, but also for representations of the past. Memory is thus made into representation by some chemical process in the now but exists without being observed and is selected by consciousness if necessary. Bergson's memory is thus unconscious: it exists like the chambers of the house in which one currently is not present. It is in this present-past dichotomy that perception and memory differ in kind.

(5) Every action is the contraction of memory onto the now. The way in which memory acts on the now is by contractions. The commonality among multiple past perceptions allows the body to learn motor actions and the intellect to form general ideas. All things, all divisions, with which perception is filled, are artificial actions of the intellect which relies on the contractions of memory. Using this idea, we resolve our dichotomy as perception can no longer be understood as independent from these contractions of memory. The present thus shapes memory, as memory is all that has been perceived by the body, and memory shapes the present, as perception is filled by contractions of memory.

Conclusions from Bergson's reformulation

Let us revisit the opening question: how does our qualitative, emotional, felt human reality stem from or fit in with the quanta of universe? The aim was then not to engage with this question, but to reverse it. Bergson, I think, shows us that in order to sensibly understand our own position among being, we should change what we understand by being itself. At the centre of his thought are two ideas for properly understanding our place. (a) Bergson, as Deleuze notes, places us 'among the things' (Deleuze, 1966/1991, p. 25). The images and their perception differ only by degree. There is no 'subject', no thing among the things (e.g. the brain) which (re)produces images. Any philosophy in which part of being has to create another being or in which a thing exists in two ways (as thing and as representation), leads to problems; this is what creates the many questions and confusions surrounding the physicalist conception consciousness. The body is then conceptualized as a world within worlds (cf. MM, p 40), in which the qualitative lives and perception is interposed between action. These worlds cannot be made to coincide. For Bergson the nervous system is a mere conductor, transmitting, sending back or inhibiting movement (Idem.). This is what shift (1) and (2) aim to establish: the whole of being is on the same 'level'. (b) Furthermore, Bergson teaches us to conceive of ourselves in time. Our place among being cannot be understood statically, in different moments, but only in duration. Perception and action cannot be understood as a sequence of moments. Shift (3), (4) and (5) all aim to conceive of the mind in terms of time. In duration and among the things we find our place.

Addressing the above question with Bergson's philosophy had a twofold motivation: its relation to life and it being fertile ground for research. Let me start with the second point. I am no experimental psychologist, neuroscientist or evolutionary biologist, so I can only guess the current state or interests of research, yet here are some of Bergson's ideas I deem useful in this regard. Firstly, I think Bergson helps us to conceive of the conscious aspects of perception in animals. Human perception differs for Bergson only by degree from that of animals. The difference between man and a protoplasm is how many things affected us in our surroundings and how many things we are able to affect: we have a larger range of motion than animals. As we have more options, we can delay reaction and as such can think. As the range of motion of an animal gets larger, its ability to delay for action should increase and thus create space for memory to act. Through understanding how an animal is affected by its memory and how it selects from its environment, we can form an idea of how an animal is less or more conscious. Secondly, Bergson urges us to investigate memory, not as a function of remembering, but of selecting. For Bergson all active recall of memory-images is geared towards action, not towards knowledge. While such a shift in perspective has been investigated for perception, a similar investigation for memory has (to my knowledge) not been carried out. Lastly, with Ansell-Pearson (2018, p. 106), I conclude that Bergson urges us to rethink our understanding of what life is. Here, Bergson can be read as reposing the problem of consciousness in terms of biology, rather than in terms of physics or chemistry. For Bergson there is a hard gap between living and non-living things. Living things are 'centres of real action', non-living things follow constant laws. Just as with the brain and the mind in our investigation, we can ask whether explaining life as just molecules explains all there is to explain.

To conclude, I want to address the connection of Bergsonian philosophy to life. In the introduction I noted how I believe physicalism is a philosophical position detached from life and that I believe we should search for alternatives. Above we saw how physicalist philosophy sees consciousness as a phenomenon emerging from the complex interaction of its fundamental particles. For such a philosophy the question of why we exist will always haunt us, as it starts from a position in which there is no human being. This takes us to the very

heart of Bergsonian philosophy (Ansell-Pearson, 2018, p. 137). For Bergson physicalist philosophy is an excess of intelligence, intelligence which for him discerns things, moments, in the continuous flow of being (in duration). This is useful in addressing concrete problems, but when physicalism aims to speculate on a higher plain it allows us to conceive of possibilities which do not attain any reality (Ansell-Pearson, 2018, p. 139). This allows the mind to get stuck on false problems such as ‘why is there something rather than nothing’ or ‘why do I exist’ (Ibid.). When we think like this, Bergson notes, we conceive of our own (conscious) existence as an affair of filling voids (Ibid.). Further removed from life - I think - we cannot get.

To address this fundamental lack of physicalism, we then first took an intermediate step. Chalmers’ thought experiment of the philosophical zombies helped us to establish where physicalism lacks. The central problem of physicalism is that it cannot distinguish between a world in which there is conscious life and a world in which there is none. His solution however was unsatisfactory; I see it as the most physicalist non-physicalist philosophy. It affirms the qualitative, but still conceives of it as fundamentally disconnected from any action we undertake (as this action is material, quantitative).

The ambition of Bergson’s philosophy is to retain both the constant laws of nature and to affirm our being as necessary. All the five shifts from above aim to establish this dual affirmation and as such aim to reconnect us to life. Bergson removes the traditional subject-object dichotomy and places us among the images. The images themselves contain the qualitative and as such both the quantitative and qualitative can induce action. We are ‘centres of real action’ in which interesting images are reflected and stored in memory. Without us there are no images and without the images there is no us. The question of how we stem from the quanta of the universe in such philosophy has become meaningless, reversed. We were never among the things.

Bergson, for me, gives a philosophical opening into how one could both adhere to the strict results of physics and formulate a sensible conception of how we are and act in the world. The results of physics stems from contemplation in a state near pure memory and in which a stark selection of the original content of the images has taken place. These results have great utilitarian use but, as indicated above, disconnect us from life and should thus not be taken as a model for life. In Bergson’s world our human reality of “tears and laughter, gratitude and altruism, loyalty and betrayal, the past which haunts us and serenity” (Rovelli, 2014, p. 74), in which we act and experience is not added to the world, but forms reality itself.

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