Is the Bergsonian Critic of Sensations Measurement Still a Topic Today?

Abstract
This paper attempts to show how the Bergsonian method works in philosophy on a concrete problem: how is it possible to measure sensations? Bergson explains that a sensation is not a psychological object, since what it is depends on what is, is doing to us. Then it is not only represented. It is lived. All sensation measuring is adding a new feeling (a feeling of growth of intensity, for instance) to what is measured (a growth of intensity.) This specific feeling is in connection with nothing but duration. The first aim is to show that this old epistemological problem is still attractive today. We don’t know exactly how to measure sensations neither with additive nor with ordinal measuring. But we want to explain also how the metaphysical intuition is working in the first Bergson’s book. It is not coming first. It is always coming after the examination of a specific scientific problem, since the philosophical insight is always emerging in an indirect way. It is impossible then to assert with Bergson that science is not thinking. It is just important to observe that science is not thinking alone. It needs the critical action of philosophy.

Keywords
Henri Bergson, sensation measurement, metaphysical intuition, philosophical insight

Introduction

Time and Free will is the first Bergson’s book. The Bergsonian critic of sensations measuring is in the first chapter of Time and Free Will. We will explain first, that the very point, which Bergson discusses, is not that we must admit degrees differences in sensations. Of course we are more or less sad, we are more or less warm. Of course we can ask: are you warm enough? As Bergson says, the common sense admits those degrees differences. And the French philosopher never develops a critic of common sense opinions. On the contrary, he writes for example in Matter and memory that the common sense conception of matter is a world of images who have their own existence is appropriate. It’s the philosophical conception of matter as objects, which is inappropriate, which is an intellectual abstraction. Thus, never does Bergson deny that we admit degrees in sensations. He denies that we can measure, with appropriate tools, with appropriate relations, these degrees differences that we are feeling. And then he sets out a very important problem. We will argue that it’s always a contemporary problem. As P. Suppes says:

1 “Le sens commun se prononce d’ailleurs sans la moindre hésitation sur ce point: on dit qu’on a plus ou moins chaud, qu’on est plus ou moins triste, et cette distinction du plus et du moins, même quand on la prolonge dans la région des faits subjectifs et des choses in- étendues, ne surprend personne.” – Henri Bergson, Essais sur les données immédiate de la conscience, PUF, Paris 1889, p. 4
The major source of difficulty in providing an adequate theory of measurement is to construct relations which have an exact and reasonable numerical interpretation, and yet also, have a technically practical empirical interpretation."\textsuperscript{2}

What’s the precise extension of this problem and do we have a solution today? It’s not only a theoretical problem. Allan Williams gave in 1982 a proposal for measuring the quality of life, for example. He wanted to prove, that we could apply this measurement for allocating medical resources. It was the birth of the Qaly’s calculus (quality adjusted life year).\textsuperscript{3}

But how is – Bergson setting out a philosophical problem? The philosophical problem in \textit{Time and free Will} is not the sensations measuring, as Bergson says:

"Les deux premiers chapitres où l’on étudie les notions d’intensité et de durée ont été écrits pour servir d’introduction au troisième."\textsuperscript{4}

The philosophical problem is nothing but the fact of freedom, freedom as freewill and as moral feeling.\textsuperscript{5} So what’s the link between the fact of freedom, which is the most evident fact that we can observe, and the critic of sensations measurement? That’s our second point.

We will prove that the specific “requirement of precision” in philosophy that Bergson assumes,\textsuperscript{6} is not only the obligation to treat a fact as an internal feeling, which is lived in our consciousness. It’s much more the fact that we can’t find a philosophical problem, which is not first, a scientific problem.

As Bergson wrote:

"Metaphysics and even psychology were of much less interest to me than work in the philosophy of science, especially mathematics. What I wanted to do in my doctoral thesis was to make a study of the basic concepts of mechanics."\textsuperscript{7}

It doesn’t lead to the assertion that philosophy is nothing but science, or that “every philosophical problem is found to be logical”, as Russell said. It reaches to the assumption that the philosophical method, even if it’s an intuitive method, doesn’t lead us mystically and immediately to “the thing itself” (\textit{die Sache selbst}). Intuition must ride intelligence, says Bergson in \textit{La Pensée et le mouvant}.\textsuperscript{8} It doesn’t put intelligence between brackets as in the phenomenological \textit{Ausschaltung} or \textit{Epoche}. As we have an essential incompleteness of Science, in Bergson’s views, we have an essential incompleteness of philosophy, which can’t ignore scientific development, if it wants to ask accurate questions to the reality:

"But in default of knowledge properly so-called, reserved to pure intelligence, intuition may unable us to grasp what it is that intelligence fails to give us, and indicate the means of supplementing it."\textsuperscript{9}

We suggest that it’s a very interesting approach, that we can find in Georges Canguilhem’s thought,\textsuperscript{10} and that we try to develop in our first book.\textsuperscript{11}

\section{The measurement problem}

Saying that freedom is a fact, Bergson takes a hint at the Kantian conception of freedom. In \textit{Critic of Practical Reason}, Kant explains that true freedom is autonomy of the will, and that the possibility of autonomy is coming from the moral law that shows the practical power of human reason as a
fact (\textit{factum rationis}). Of course, it’s nothing but an ideal fact, which is not coming from empirical observations. In Bergson’s view, on the contrary, freedom is not a fact of reason; it’s an internal psychological feeling. Freedom doesn’t find its foundation on obligation or duty. It finds its foundation on a natural biological and psychological feeling. But it’s a very complicated feeling, like the feeling of beauty or of grace. Then, Bergson tries to develop an analytical method, to understand this complex feeling of freedom or of grace. In order to do it, he comes back to the more simple and immediate data of consciousness, and he asks the question: \textit{can we dissociate a sensation as a pure representation from affection?}

Actually, we can suppose that when a sensation loses its affective dimension, it becomes a pure representation:

\begin{quote}
“A mesure en effet qu'une sensation perd son caractère affectif pour passer à l'état de représentation, les mouvements de réaction qu'elle provoquait tendent à s'effacer.”
\end{quote}

For example, if I look at my black table, I’m not feeling my eye, which is looking at the table, and then I can try to search some external relation between the stimulus and the representative sensation. I can examine the pure relation between two different variables: the stimulus and the sensation, as if representative sensation was something like a fact, or something like a psychological parameter which is varying in relation with a physical parameter. It’s exactly what the psychophysicists like Delboeuf or Fechner are doing at the end of the XIXth Century. Fechner, for example, dissociates an external relation between excitation and sensation, and an internal connexion between sensation and nervous system. He is founding this dissociation on the psychoparallelistic assumption. And then, if we admit the very ontological idea that body and mind are nothing but a same thing said in two

\begin{thebibliography}{9}
\bibitem{2} The idea is that a year of healthy life counts for one Qaly, and a year of life involving disability or discomfort counts for less than one, how much less depending on its seriousness. Advocates of this approach argue that health care expenditure should be so distributed as to maximise the total number of Qaly gained.
\bibitem{4} H. Bergson, \textit{La Pensée et le mouvant}, p. 42.
\bibitem{6} “La philosophie est une réflexion pour qui toute matière étrangère est bonne, et nous dirions volontiers pour qui toute bonne matière lui est étrangère.” – Georges Canguilheim, \textit{Le Normal et le pathologique}, PUF, Paris 1950, p. 7.
\bibitem{7} Paul Antoine Miquel, \textit{Comment penser le désordre?}, Fayard, Paris 2000.
\bibitem{9} H. Bergson, \textit{La Pensée et le mouvant}, PUF, Paris 1934, pp. 1–2.
\bibitem{10} Gustave Théodor Fechner, \textit{Elemente der Psychophysik} [1860].
\end{thebibliography}
different languages, if we deal with the correlation between physical excitations and psychological sensations, it becomes possible to measure the intensity of sensation, like we measure the intensity of excitation. Of course, Fechnerian psychophysics is founded on a metaphysical assertion, but it doesn’t matter. If we test the measuring operation, we can perhaps verify with this test our metaphysical assumption. What do we need in order to do that?

First we need to accept the very supposition that a sensation can be a pure representation, a pure psychological object that we can dissociate from what this object is doing to us. Second, if we take Fechner or Delboeuf’s position, we must deal with the possibility of an extensive measurement of sensations. That’s a very strong assumption, since we must first find something like a “grandeur etalon”, a unit of sensation measuring, or of variations sensations measuring. And we must admit too, that we can add together these variations of sensations, like we add different lengths, for example. That’s the additivity assumption.

It’s exactly the way that Delboeuf is going. Take three disks. Put in A and B different shades of grey, one darker and the other lighter. They can’t vary. Let the grey colour vary in C between these two different shades. You stop the variation when the observer thinks that the shade in C is equidistant to A and B. You have something like the same length between AC and CB. Since AC/CB =1, you can construct a conventional unit of measurement. For example AC is 10, or AC is 100, etc. You always get AC/CB=1. It’s your atom of differential intensity of sensation, with a finite difference. And you can add AC with itself. For example 2 AC is AD. You can measure extensively the intensity of sensations. Does it work? Of course not. If you look at the great differences between A and B, for example, everyone will give you a different result.

If you take the Fechnerian position, it’s a little more complex, since you must use infinitesimal calculus. Your atom of differential intensity of sensation will be: \( \frac{dE}{E} = dS \), since \( dE \) is the variation of excitation that you must add in order to feel a variation of sensation \( dS \). And then, if you integrate this infinitesimal variations, you find the Fechnerian logarithmic law. Sensation doesn’t vary as excitation varies. Sensation varies as the logarithm of excitation. It means that excitation increases with much more velocity than sensation, but always with the same objective relation. Does it work? Of course not! The unit of measurement is not constant. It’s changing when you take little excitations and then great excitations. You don’t have any objective measuring. It’s still more visible if you take sounds, and 100 decibels as unit of measurement, for example.

So, I will focus my attention now upon the Bergsonian critic. Is this critic valid and accurate? First you can say that Bergson reduces measuring to extensive measuring. That’s René Berthelot’s position, in Un romantisme utilitaire, which was published in 1911. Of course, Bergson doesn’t ignore that we have external and internal parameters in thermodynamics. Volume is an additive parameter. Temperature is an intensive parameter. We can add snow with snow, the result will never be water. Bergson knows the objection and he gives a very accurate answer. Even if you can’t directly add temperature differences, it’s possible to measure the effect of temperature variations upon dilatation of mercury, for example. And you can give an extensive measuring of mercury’s dilatation, and so, you have an indirectly operational measuring.
Nevertheless, it’s true that Bergson doesn’t speak of ordinal measurements, and since we quoted Patrick Suppes in introduction, Suppes doesn’t assume that fundamental measurement means existence of an additive operation. We can put in order intensive differences of sensations, of feeling, of intellectual performing, without accepting the additive assumption. That’s exactly what we are doing today, when we try to test intelligence, or emotion. Don’t we have here an important Bergsonian mistake?

First, it’s a retrospective judgement, and like all retrospective judgements, it is bad. Ordinal measuring is coming in the 1920 in psychophysics, with Stevens. Second, what’s exactly the philosophical point with which Bergson is dealing? Does the use of ordinal measuring modify his critic? For me, the answer is no. I shall explain why.

Can you accept first that a sensation is a pure representation? That’s exactly the Russellian position in Theory of Knowledge. That can’t be the Bergsonian position. If sensation is a pure representation, you admit a private space of mental representations that you must distinguish from public physical objects. That’s a very hard way. First, its a scientific mistake, since we know very well today, that when I’m looking something, or when I’m writing something, my brain is aware that I look and that I write. All sensations are affecting my brain, and not only my mind. And for example, in a special experiment, I can feel that I’m writing, even if I’m not writing actually. Second, if you accept this assumption, how can you be sure that a world of physical objects is really behind your world of mental representations? And if it’s the case, how do you know that you are not the victim of systematic misrepresentations of objects, since you can’t have any access to the original with the sensation present in your mind? So we stress the first idea: all sensations are felt or lived. They are not simple objects or simple facts. Like William James (Treatise of Psychology), Bergson thinks that all these facts are interacting with my brain and my mind in the so-called “stream of consciousness”. For example, the psychophysicist who lifts up a weight and who wants to measure the increasing of intensive sensation, adds to this measurement a new mental and brain state: the sensation of increasing which modifies the increasing of intensive sensation. It’s not possible to understand it objectively. Even if you just put differences in order, as in an ordinal measurement, you will not have the same order of differences for me, and for an other man, since this order depends on my feeling of differences, which

15 René Barthelot, Un romantisme utilitaire, Alcan, T2, ch. 1, ch. 8–9, Paris 1911
16 Pierre Duhem, L’Évolution de la mécanique [1903], Vrin, Paris 1992, pp. 201–203
19 See Jean-Pierre Roll’s work, Laboratoire de neurobiologie humaine, Marseille
20 “A permanently existing idea or ‘Vorstellung’, which makes its appearance before the footlights of consciousness at periodical intervals, is as mythological an entity as the Jack of Spades.” – William James, Treatise of Psychology, Vol. 1, Macmillan, London 1890, p. 236
21 H. Bergson, Essais sur les données immédiates de la conscience, p. 36: “(L)orsque le psychophysicien soulève un poids plus lourd, il éprouve, dit-il, un accroissement de sensation. Essayez si cet accroissement de sensation ne devrait pas plutôt s’appeler une sensation d’accroissement.”
is not the feeling of differences of another man, or of another animal. Your measurement will necessarily be artificial, or you have to prove that it will not be. You have, in Bergsonian words, “la charge de la preuve”.

The philosophical problem

What is the philosophical problem behind the measuring problem? In order to give an answer, we are led to the difference between space and duration, as Tim Moore says.22 James spoke of the stream of thoughts, but it didn’t find the Bergsonian distinction between space and duration.23 That’s the great discovery of the French philosopher. We will try to analyse it shortly, but with a new insight.

First it’s very clear, that Delboeuf and Fechner need to spatialize intensity differences in order to measure them. But what is space exactly? Of course, Bergson understands space as exteriority, in his first book, and not as extension, like in Creative evolution. That exteriority is not the so-called “étendue” of Descartes:

“Une simultanéité de termes qui identiques en qualité, se distinguent néanmoins les uns des autres.”24

Space is characterised here by the relation of simultaneity, exactly like in Russell’s thought25 and exactly like in Meyerson’s thought.26 And what is simultaneity? A relation between different relata that are not changed by the relation and that doesn’t have the power to modify the relation. The word “identity” expresses this type of relation, in Bergson’s quotation. Russell calls it an external relation. Then, our sensations are not only in space, but also in duration. And that’s the point. That’s easier to understand if we take sonorous sensations, instead of visual sensations: for example the sounds of a musical melody.

Sounds depend of what they are doing to me, they are lived in the sense that they exist in duration. Why?

First we can’t understand duration with simultaneity, since duration excludes the concept of simultaneity: when the new present is coming, the old present disappears. We can’t have any relation of simultaneity between the new and the old present, since you can’t rely them together. The relation is modifying the relata, not only in their shape, but also in their existence: one appears when the other disappears.

Second may be we can say, as Russell says, that duration is succession, and that in succession, it’s not possible to compare two different events, but it’s possible to put them in order. The second is coming after the first. If it’s the case, we can find a relation of order, with specific properties, like antisymmetry, but which is not affected by the relata. That’s the Russelian way.27 That’s not the Bergsonian way. Why? When the old present is disappearing, it is doing something to me, which affects the new present. There is a link between the old and the new present, which is an internal link, and which is emerging in the new present. It depends of the new present’s acting. It’s not possible to describe this link before the new present is emerging. The internal link was not here before the disappearing of the old present. Thus, the relation between the old and the new present is affected by the relata. It becomes an internal relation, a lived relation in the new present. And it depends of the acting of the new present. Then, the Russelian dream is destroyed: it’s not possible to give an a priori description of the relation of
succession, since the description of this relation depends on the acting of the relata upon the relation. Duration is acting (“le temps n’est rien de tout fait, il est ce qui se fait, et même peut-être ce qui fait que tout se fait”), and description of duration is depending on the acting of duration. Acting is modifying description of duration, which is always open and can never be complete.

If we take now the problem of freedom, since we understand that behind all human sensations and feeling we have duration, can we find a philosophical solution? Well, not a complete solution, may be. But a beginning. First, human freedom is coming in the decision and not only in the intention. It doesn’t depend of your intentions. It’s when you are acting that you feel the sensation of freedom. How this sensation is coming up? Second, human action is not emerging in a necessarily world, since its impossible to say that you can find in MO the complete determination of OY. The link between MO and OY is a spatial link. It has nothing to do with duration. In this link, the relation between MO and OY is a relation of simultaneity. But human action is not emerging in different possible worlds, like the world in which you do MOX, and the other world in which you do MOY. This explanation is not successful if we take human action. If we accept that either we can be in the MOX world or we are in the MOY world, we accept that we can exactly define before acting what these different possible worlds are. That the old vision of the free will. You can find it in Descartes or in Kant.

But human action is coming in a contingent world, since if you are going in the OX direction, it’s not without reason. It’s not arbitrary, like Descartes said. But it depends on how the time is acting between M and O, how the time is acting upon the description of time. It depends of the feeling of the old present that you have in the new present. This feeling is affecting the relation between the old and the new present, which is emerging in the new present. Since this relation is affected by the new present, you couldn’t knew before the coming out of the new present, what this relation could be. You couldn’t knew it a priori. Of course, you can find repetition in human action, like in physical nature. But when a human action is modifying the relationship between the old and the new present in the new present, when the new present is not only the repeat of the past, you know exactly that you are not a simple stone, or a simple planet, and you feel this specific sensation of freedom. – Car la liberté n’est rien d’autre qu’un fait et parmi tous les faits que l’on constate, il n’en est pas de plus clair.

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24 H. Bergson, *Essais sur les données immédiates de la conscience*, p. 76


26 Emile Meyerson, *Identité et Réalité* [1907], Vrin, Paris 1951, p. 30


28 H. Bergson, *La Pensée et le mouvant*, p. 3
Conclusion

Of course we can read Bergson, like we read Descartes or Plato, like we read metaphysics. He is spiritualist and vitalist. He tends to think duration as the substance of reality. And he tends to conclude that duration was not something like a natural phenomenon. What is lived in duration, the internal world of consciousness, could not be explained with science.

And so we fall in two critical ways: phenomenology and analytic philosophy. Phenomenology says that there is no such thing like the essence of reality, even if we deal with the idea that this essence is duration.\(^2\) If we don’t understand that, we miss the extatic characterisation of time, which is built in *Sein und Zeit* upon the link between the concept of ontological difference, and the concept of *Dasein*. Analytical philosophy says that the Bergsonian conception of duration is an obstacle to the development of science, it’s an obstacle to the justified attempt to find an operational measuring of human sensations.

We will suggest two arguments in order to give a short answer. First, it’s possible to understand duration, not like a spiritualist substance, but as the specific relationship in which the description of something depends on the acting of this something, which completes this description. If we understand duration like that, we are not speaking of soul, or of spirit, or of any other metaphysical principle. We just are setting out the problem of “emergence”, which is not only a psychological problem, but which can be a biological and perhaps a physical problem too. But we are setting it on a new footing, since we don’t accept, like in Heideggerian position, that philosophy doesn’t need science, that we can find a philosophical problem, without analysing scientific problems. We, think, on the contrary, that philosophy is heterogeneous and incomplete, and that in order to understand the time, for example, we need to understand what psychology, what biology, and what physics say upon irreversibility of time.

Second, the Bergsonian critic of sensations measurement does not necessarily prove that it’s impossible to measure sensations. It doesn’t prove that sensations are not natural phenomena, and are supernatural entities. But if we want to naturalize sensation, and to explain it with science, we need other tools. Bergson itself was saying something like that when he spoke about live in *Creative Evolution*:

> “The procedure by which we should pass from the definition of a living process to the set of physical-chemical facts which it implies would have some analogy with the operation of passing from a function to its derivative, from the equation of a curve to the equation of the tangent which gives its direction at an instant. Such a science would be a mechanics of transformation, of which our mechanics of change of place would become a special case, a simplification, a projection onto the plane of pure quantity.”\(^3\)
Zusammenfassung


Schlüsselwörter

Henri Bergson, Messbarkeit von Gefühlen, metaphysische Intuition, philosophische Einsichten

Paul Antoine Miquel

Ist die Bergson'sche Kritik an der Messbarkeit von Gefühlen heute immer noch aktuell?

La critique bergsonienne de la mesure des sensations est-elle toujours actuelle?

Mots clés

Henri Bergson, mesure des sensations, l’intuition métaphysique, l’idée philosophique