

Perception and Metaphysics.

Perceptual experience in Charles Peirce and Alfred North Whitehead

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Although perception is the most basic element of human knowledge, it is at the same time a very challenging experience to be described. Its simplicity is the main reason for this difficulty; in fact it is hard to be objective with a fact that is present in every moment of our life.

I'll take into account two philosophers who have analyzed the problem of perception, trying to avoid naïve conclusions and joining together perceptual experience and metaphysics: Charles Peirce and Alfred North Whitehead.

My aim is not to expose a strict comparison between their writings, but rather to verify if their criticism against classic Aristotelian metaphysics generates a different paradigm and finally a plausible theory of perception.¹ I'll freely use their works in order to define a path toward a new description of our most common experience.

The green chair

Let's start from a very simple example: imagine you see a green chair in front of you.

Which is the most adequate model for the description of this experience? Which categories or concepts should we use?

One of the most common answers to this question comes from the Aristotelian tradition: when we see the green chair we perceive a substance, the chair, which has a particular attribute: to be green. From such a description, apparently extremely simple, arises many different problems that Whitehead clearly explains in *The Concept of Nature*.

The unquestioned acceptance of the Aristotelian logic has led to an ingrained tendency to postulate a substratum for whatever is disclosed in sense-awareness, namely, to look below what we are aware of for the substance in the sense of the 'concrete thing.' This is the origin of the modern scientific concept of matter.²

The entity has been separated from the factor which is the terminus of sense-awareness. It has become the substratum for that factor, and the factor has been degraded into an attribute of the entity. Thus what is a mere procedure of mind in the translation of sense-awareness into discursive knowledge has been transmuted into a fundamental character of nature. In this way matter has emerged as being the metaphysical substratum of its properties (CN: 16).

We are so used to classifying sensations through substance and attributes that we do not even realize that these concepts are drawn from linguistic practice. When we have a perceptual thought we often introduce a false simplicity.

¹ Victor Lowe made an important comparison between Peirce's and Whitehead's metaphysics in V. Lowe, *Peirce and Whitehead as Metaphysicians* in *Studies In the Philosophy of Charles Sanders Peirce*, edited by E. Moore and R. Robin, Amherst, Univ of Mass Pr. Here I will focus on the metaphysical consequences of their theory of perception.

² A.N. Whitehead, *The Concept of Nature* (Cambridge: Cambridge University Press, 1920), p. 18; from now on CN, followed by page number.

The framework describing experience through substance and attributes was brought into question during the XVII century by the theories concerning light and sound propagation.

Newton determined the correlation between light and colors and stated also that light was composed by particles. Every beam of light that penetrates the eye is made up of microscopic corpuscles – or waves according to the opposite theory – which generate the visual sensation of the object. Here comes the problem: how is it possible for us to receive particles – or waves – and perceive colors?

The things transmitted are waves or - as Newton thought - minute particles, and the things seen are colours (...)The result completely destroyed the simplicity of the 'substance and attribute' theory of perception » (CN: 27)

Modern thought tried to save the Aristotelian paradigm through the theory of primary and secondary qualities.

Locke met this difficulty by a theory of primary and secondary qualities. Namely, there are some attributes of the matter which we do perceive. These are the primary qualities, and there are other things which we perceive, such as colours, which are not attributes of matter, but are perceived by us as if they were such attributes. These are the secondary qualities of matter. (CN: 27)

This distinction enables Locke to save the Aristotelian terminology but leads his philosophy to a paradoxical conclusion.

Why should we perceive secondary qualities? It seems an extremely unfortunate arrangement that we should perceive a lot of things that are not there. Yet this is what the theory of secondary qualities in fact comes to. (CN:27)

In order to reconcile our feelings with scientific discoveries it is necessary to admit that things in themselves are composed of objective elements – atoms, molecules, waves – which form the authentic structure of reality, whereas human mind or spirit adds a psychical content to perceptions. This addition generates our sense experience but at the same time hides the concrete nature of objects.

Whitehead criticizes this thesis because it discredits feelings as mere ghosts created by the mind and postulates a radical disconnection between the subject and the world.

The theory of psychic additions would treat the greenness as a psychic addition furnished by the perceiving mind, and would leave to nature merely the molecules and the radiant energy which influence the mind towards that perception. (...). Natural philosophy should never ask, what is in the mind and what is in nature. To do so is a confession that it has failed to express relations between things perceptively known. (CN: 29-30)

This declaration against dualism establishes a strong link between Whitehead and Peirce. Also the American pragmatist criticizes doctrines which set a rigid line of demarcation between subject and object. As he writes to William James «you can't find a place where I distinguish the objective and subjective sides of things» (CP 8.261). Unity of experience is defined as the keystone of his realism. «The realist will hold that the very same objects which are immediately present in our minds in experience really exist just as they are experienced out of the mind» (CP 8.16).

The greenness of the chair cannot be reduced to a psychological addition because there is no reality beyond experience. Whenever science or philosophy try to explain nature through elements independent from subjectivity they lose their only possible source: sense-awareness.

Simple location

Dualism is the first mistake that both Whitehead and Peirce criticize in modern thought.³ The second mistake is connected to the concept that Whitehead calls «simple location».

Newton's physics elaborated some of the most successful laws for the justification of motion. In his laws Newton directed attention to mass as a physical quantity inherent in the nature of a material body. The notion of mass produced a materialistic conception of the world where objects are defined through their precise location in space and time.

*The characteristic common both to space and time is that material can be said to be here in space and here in time, or here in space-time, in a perfectly definite sense which does not require for its explanation any reference to other regions of space-time.*⁴

Such a notion implies many problems. According to the concept of «simple location» *the material is fully itself, in any sub-period however short. Thus the transition of time has nothing to do with the character of the material. The material is equally itself at an instant of time. Here an instance of time is conceived as in itself without transition, since the temporal transition is the succession of instants* (SMW: 51). But such a notion is «the expression of more concrete facts under the guise of very abstract logical constructions»⁵.

To say that a bit of matter has simple location means that, in expressing its spatio-temporal relations, it is adequate to state that it is where it is, in a definite finite region of space, and throughout a definite finite duration of time, apart from any essential reference of the relations of that bit of matter to other regions of space and to other durations of time.(...) I shall argue that among the primary elements of nature as apprehended in our immediate experience, there is no element whatever which possesses this character of simple location. (SMW 58-59)

Simple location is a conception that is naively accepted without a serious observation of our experience. Modern physics pushes us to believe that things exist in a definite space and time without any relation with the context. But in order to admit this description we have to accept that:

- a. we can experience definite objects, free of relations
- b. space and time are made of ultimate components, namely points and instants.

Peirce would refuse both these two hypothesis.

The American philosopher always highlighted the importance of relation. Our experience is build on the relation between Firstness, Secondness and Thirdness; signs spring from the relation between object, sign and interpretant; reality itself is defined as a continuum because there is no reality without relation, meaning without a law which connects all the single facts and which gives them their place in the world. A world made of blind facts is a chaos.⁶

³ Also Peirce deeply criticized the thesis of English nominalists, see for instance the review that Peirce wrote to the Frazer's edition of *The works of George Berkeley*, published in CP:8.7-38.

⁴ A.N. Whitehead, *Science and the Modern World* (Cambridge: Cambridge University Press, 1925), p. 50; from now on SMW, followed by page number.

⁵ SMW: 52.

⁶ CP 8.12, EP2: 152.

We can surely say then that Peirce would refuse the notion of a fully definite object. At the same time he explicitly criticized the existence of ultimate components for space and time. His peculiar view is clearly expressed in contrast with Kant and his definition of continuity.

Namely he [Kant] defines a continuum as that all of whose parts have parts of the same kind. He himself, and I after him, understood that to mean infinite divisibility, which plainly is not what constitutes continuity since the series of rational fractional values is infinitely divisible but is not by anybody regarded as continuous. Kant's real definition implies that a continuous line contains no points. (CP 6.168)

It's interesting to observe that this Kantian definition is quoted by Whitehead too in *Science and Modern World*⁷. Then Peirce explains:

Kant did not quite understand himself, and imagined that in saying that every part of a time is a time he had only said that time is infinitely divisible. He spoke wiser than he knew. To say that every part of time is a time is to say that time contains no absolute instant, no exact date; for such instant, or date, would be an ultimate part of time (MS 881:57).

Peirce maintains that time is composed of *moments*, which mean “infinitesimal durations”⁸. These durations composing our feeling of time include a part of memory and a part of anticipation.

Percipuum [present moment] is not an absolute event. There is no span of present time so short as not contain something remembered, that is, taken as a reasonable conjecture, not containing something expected for the confirmation which we are waiting. (CP 7.675)

Whitehead himself defines temporal experience with very similar expressions in *The Concept of Nature*

This immediate duration is not clearly marked out for our apprehension. Its earlier boundary is blurred by a fading into memory, and its later boundary is blurred by an emergence from anticipation. (CN: 69)

What we perceive as present is the vivid fringe of memory tinged with anticipation. (CN: 73) And in this last quotation is clear the influence of William James.⁹

Then we can summarize the results achieved up to now in one sentence: knowledge, and consequently nature, cannot be described through a dualistic paradigm. “Nature is a process” (CN:53)

A new paradigm for the description of perceptual experience

We would go back now to the green chair we considered at the beginning of this discussion. We realized that the traditional paradigm describing it through substance and attributes, also using Locke's theory of primary and secondary quality, does not correspond to our real experience. Is it thus possible to find a different paradigm, a new way to describe the perception of the chair starting from the notion of experience as a process?

⁷ Cfr SMW: 128-29.

⁸ EP1:315.

⁹ For a deeper description of the notion of time and continuity in Peirce, Whitehead and James see S.B. Rosenthal, *Continuity, Contingency, and Time: The Divergent Intuitions of Whitehead and Pragmatism*, in «Transaction of the Charles S. Peirce Society», n. 22, 1996.

Peirce and Whitehead wrote many pages trying to define the main elements composing our feelings. Here we'll not make an accurate report of their analysis but we'll try to detect the elements that they both suggested as essential in our perceptions.¹⁰

Our original experience of the world is composed of two main elements: the first one is simple, vivid, positive and arises from our «immediate perception of the contemporary external world»¹¹. Whitehead calls this element **Presentational Immediacy**, whereas Peirce calls it **Percept**¹². The two terms are not perfectly identical, nevertheless they share some important features.

a. Presentational immediacy and percept should not be confused with first impressions of senses¹³. Peirce and Whitehead refuse Hume's empiricism which builds knowledge on sense impressions because this theory goes against their anti-dualism.

b. The main feature of this first element is vividness. Percept and presentational immediacy give positive information about experience. They precisely describe the quality of the world.

The percept not only represents the cushion [we can say, the chair] as having some colour but fully commits itself as to what that colour is. In this respect, the percept is distinguished from memory. (MS 881: 133)

c. Vividness is at the same time the essence and the limit of this mode of perception.

The knowledge provided by pure presentational immediacy is vivid, precise, and barren. (S: 27). Presentational immediacy is as accurate as «trivial»¹⁴ because it does not take into account the great amount of relations connecting the present moment to past and future. Peirce shares this view, in fact the percept is defined as composed of pure Firstness and Secondness¹⁵ without any reference to Thirdness. There is no generality or mediation in percept and its vividness is so definite that shuts itself in the boundaries of present. But without mediation we never reach authentic knowledge, for this reason Whitehead writes that this mode is trivial and barren. In order to gain true knowledge we have to consider the second mode of perceptual experience.

This is called **Causal Efficacy** by Whitehead and **Perceptual Judgment** by Peirce. Aside from the specific context where each author introduced these concepts, they share one relevant aspect: they are deeply related with time.

Here is a very forceful description of the perceptual judgment.

I look at an object and form the judgment; it seems red. If anybody were to ask me how I could be sure that it truly seems red, I should probably answer instinctively, 'Do I not see it? Seeing is

¹⁰ For a deeper analysis of Peirce's and Whitehead's theory of perception see R.F. Almeder, *Peirce's theory of perception*, «Transactions of the Charles S. Peirce Society», Vol. VI, n° 2, 1970; R.J. Bernstein, *Peirce's Theory of Perception*, in *Studies in the Philosophy of Charles Sanders Peirce*, vol. II, edited by E.G. Moore e R.S. Robin, University of Massachusetts Press, Amherst 1964; A. De Tienne, *Peirce's definition of the Phaneron in C.S. Peirce and the philosophy of science*, University of Alabama Press 1992; C.R. Hausman, *In and Out of Peirce's Percepts*, «Transactions of the Charles S. Peirce Society», Vol. XXVI, n° 3, 1990; D.L.C. Maclachlan, *Whitehead's Theory of Perception*, «Process Studies», pp. 227-230, Vol. 21, Number 4, Winter, 1992.

¹¹ A.N. Whitehead, *Symbolism. Its Meaning and Effect*, Cambridge University Press, London 1928, p. 25. From now on S followed by page number.

¹² CP 7.619

¹³ «All our knowledge rests upon perceptual judgments» writes Peirce in CP 2.141; see also S: 25.

¹⁴ S: 35.

¹⁵ Cfr CP 7.625, 7.630

believing, here.’ Yet I certainly do not see that it seems red; for what I see is an image, but what I say is a judgment, an object which has no feature in common with an image. But I have a sense that the judgment is determined by the action of the perceptual image upon it (MS 337: 6, 7).

This description is surprisingly similar to what Whitehead writes at the beginning of *Symbolism*.

We look up and see a coloured shape in front of us, and we say,— there is a chair. But what we have seen is the mere coloured shape. (S:3). The passage from the shape to the chair is justified by our past experiences and memories, but it is so natural that is quite difficult to abstract from it.

Through these quotations we disclosed the two main features of perceptual judgment/causal efficacy.

a. It is a relational process. We say: ‘here is the chair’ because we have seen many other chairs before and we expect the present chair to conform to our past experiences.

The perceptual judgment ‘the chair appears yellow’ has vaguely in mind a whole lot of yellow things, of which some have been seen, and no end of others may be or might be seen; and what it means to say is, ‘Take any yellow thing you like, and you will find, on comparing it with this chair, that they agree pretty well in colour’(CP 7.632).

Perceptual judgments are based on uniformity in experience. Every time we touch, see or hear something, our feelings do not arise as an irrational flow; on the contrary they are connected through definite relations that allow us to recognize the same object in different moments and situations. How could have we said that the chair is yellow if objects had changed their colour every moment without offering any explanation?

This is the essence of Whitehead’s causal efficacy: «In practice we never doubt the fact of the conformation of the present to the immediate past. It belongs to the ultimate texture of experience, with the same evidence as does presentational immediacy»(S: 40).

b. This last quotation reveals the second feature shared by both perceptual judgment and causal efficacy. They surely have a relational, temporal, mediated nature – they include Thirdness in Peircean terminology – but such a relation springs from inside the perception. We directly perceive causal efficacy. Peirce defines this concept describing perceptual judgment as out of control.¹⁶ Whitehead maintains that dividing immediacy of perception from causal efficacy we should admit that the last is a product of thought.¹⁷ On the contrary Peirce and Whitehead acknowledge relation as an ultimate component of experience, as immediate as sense data.

Back to dualism?

The path we followed in the last paragraph guided us to the final elements composing perceptual experience according to Peirce and Whitehead. On the one hand there is a vivid and simple element – percept or presentational immediacy – giving positive information about reality. On the other hand there is a relational element, connected with time, which allows us to express judgments like ‘the chair is green’ – we called it perceptual judgment or causal efficacy.

And here arises a doubt: did we really get through the limits of dualism? In the first part we showed that experience cannot be described in a dualistic system, distinguishing a mental and a physical source for our knowledge.

¹⁶ MS 304:28, EP2: 227.

¹⁷ S: 34-35

May we finally conclude that percept and perceptual judgment – or presentational immediacy and causal efficacy – avoid every ‘Cartesian’ drift? The terms we discussed up to now are surely essential in Peirce’s and Whitehead’s philosophical research, but they can still drive us to dangerous misunderstandings. If we consider vividness and relation as progressive steps in the perceptual process, we will fall back into dualism. Percept and perceptual judgment are not steps but rather elements constantly present in our experience. But then, again comes the question: which steps can be identified in our perceptual knowledge? Can we describe the process that permits us to feel the chair, placing percept and perceptual judgment in their right position and avoiding misunderstandings?

Reading Peirce’s writings we can find a precise description of this process in one of his most famous paper: *On a New List of Categories*.

Experience as a process in *On a New List*

On a New List was written in 1867 and its first part describes the deduction of categories. Belonging to Peirce’s youth, this paper is strictly connected to Kantian philosophy – as the first sentence clearly shows («This paper is based upon the theory already established, that the function of conceptions is to reduce the manifold of sensuous impressions to unity»¹⁸). Peirce is focused on a cognitive perspective and the categories he describes are founded in a linguistic ground. Peirce maintains that empirical knowledge is propositional and that sense impressions can be reduced to unity through the subject – copula – predicate framework. When we open our eyes we see a chaotic mass of sense data which is unified through the action of predication. We say, for instance, ‘the stove is black’, and impressions find their proper unity.

The sentence ‘the stove is black’ includes the first three categories described by Peirce: substance (the subject, the stove), being (the copula), quality (the predicate, black).

We could think then that *On a New List* is as far as possible from the perspective we are considering in this paper. It seems that Peirce is regressing to Aristotle and to his substance/attribute theory, but actually this conclusion is not fully correct. We have to admit that Peirce’s terminology and interests were widely modified during his life, nevertheless the relevancy of Peirce’s *New List* becomes evident when we consider the deduction of the two last categories, which are obtained by tracing quality back to its source in experience.

When we say ‘the stove is black’ how did we get to the concept of ‘blackness’? Peirce resolutely denies that quality is a character immanent to impressions: ‘Quality seems at first sight to be given in the impression. Such results of introspection are untrustworthy’ (CP 1.551). Peirce here rejects Humean phenomenalism and asserts that quality is a concept and its application to a certain object is ‘entirely hypothetical’. Let’s try to explain this passage through an example.¹⁹

When I say that the stove is black I’m referring to a body of previous experiences. For instance, I see my neighbor’s cat and then I observe that the cat is like the stove in some respect. Then I see the blackboard in my class and I recognize that there is again some similarity with the stove and

¹⁸ CP: 1.545.

¹⁹ I follow here the clear explanation made by Fred Michael in his paper *The Deduction of Categories in Peirce’s ‘New List’*, «Transactions of the Charles S. Peirce Society», volume 16, no. 3 summer 1980.

the cat. But then I suddenly remind my cousin's cat and I realize it has nothing in common with the stove and the blackboard. I can summarize my reflections in this way:

A (the cat) is like B (the stove) in respect of X

C (the blackboard) is like B (the stove) in respect of X

D (my cousin's cat) is neither like B nor C in respect of X

X is what Peirce calls 'blackness', the *ground* of the relation.²⁰ I am first aware of black things and after some experience I reach the conception of black as a quality that can be applied to a thing directly, without reference to a correlate.

*Quality is not itself found in impressions: Hume is wrong. Quality is obtained by precision from relation*²¹, therefore Relation is the fourth category that Peirce includes in his list.

One last step is necessary in order to explain how we get to the judgment 'the stove is black'. Peirce introduces the last category going deeper into the process of comparison. We said that qualities cannot be found in impressions, but what about relations?

*"Relations are not found in impressions any more than qualities. Things must be brought into relation by an interpretant. An interpretant brings things into relation by standing for the common ground between them, and in so doing it makes the things signs of this ground"*²²

The interpretant is the one who brings elements into relation, like a detective who is able to bring to light the common ground connecting different facts which are completely meaningless for all the other people. The interpretant 'makes an object sign of a ground'²³. One last remark: the interpretant should not be reduced to a single human mind but is a concept that reveals the structure of experience which is continuously developing independently from every individual perspective.²⁴

We could criticize Peirce for his strictly propositional standpoint, but he actually corrected it in the following years since his philosophy headed toward realism. In 1903, when percept and perceptual judgment appear in his writings, Peirce is still working on the categories which happen to be three instead of five. Firstness, Secondness and Thirdness correspond to Quality, Relation, Representation, whereas Being and Substance disappeared because of their narrow propositional nature.

Conclusion

When we open our eyes and we see an object in front of us we immediately express a judgment: 'the stove is black' or 'the chair is green'. This judgment is a proposition, is formed by a subject and an attribute connected through a copula, nevertheless these linguistic elements are not immediately felt in our perception. Even a simple concept like 'green' requests a complex process in order to be reached. Perceptions themselves are not simple nerve stimulations, but they are

²⁰ "We cannot comprehend an agreement of two things, except as an agreement in some *respect*" (CP1.551); « we can know a quality only by means of its contrast with or similarity to another» (CP1.552).

²¹ F. Michael, *The Deduction of Categories in Peirce's 'New List'*, p. 206.

²² *ibidem*.

²³ *ivi*, p. 204. Peirce himself writes: «Such a mediating representation may be termed an *interpretant*, because it fulfills the office of an interpreter, who says that a foreigner says the same thing which he himself says» (CP1.553).

²⁴ This is one of the main differences between Peirce and Kant; F. Michael, *The Deduction of Categories in Peirce's 'New List'*, p. 207.

acts involving many relations happening during a lapse of time. And relations are essential not only for qualities, but for objects as well. As Whitehead shows, also the judgment “this is a cat” is the result of complex relations happening in a process.²⁵ This fact does not imply that the blackness of the stove or the cat are creations of our mind because we cannot distinguish the subjective and the objective side of knowledge. Reality itself emerges as a process in which mediation and relation play a leading role from the very beginning.

In this perspective we can say that, although Whitehead never mentioned Peircean categories, this quotation from *Science and Modern World* illustrates a notion of reality very similar to Peirce’s one.

Nature is a process of expansive development, necessarily transitional from prehension to prehension. What is achieved is thereby passed beyond, but it is also retained as having aspects of itself present to prehensions which lie beyond it. Thus nature is a structure of evolving processes. The reality is the process. It is nonsense to ask if the colour red is real. The colour red is ingredient in the process of realization (SMW: 73-74).

Let’s now resume to the question we considered at the beginning of this research. It is possible to elaborate a new explanation of perceptual experience, free from classical mistakes which divide elements that experience presents as a whole?

The description suggested in *On a New List* discloses a genuine processual paradigm that surpasses every dualism. Also percept and perceptual judgment will become more clear when considered in the light of categories.

Peirce himself explains that percept is connected to Firstness and Secondness, whereas perceptual judgment introduces Thirdness, but reading this sentence we have to keep in mind that categories can never be divided²⁶.

It seems that Peirce saw perception as he did experience in general, in phenomenological terms, as pervaded by all three categories. Thus, there is a tendency, a generality, at last in germ, in phenomena that are dominated by secondness and firstness. In the present context, this means that even percepts as they occur phenomenally or experientially lie in a continuum in which judgment shades into the uncontrollable.²⁷

One last point should be clarified. If reality is the process and our experience is dominated by mediation and relation, what space is left for percept or presentational immediacy? As we said before, the most vivid element of perception is not a separate step of our experience. Therefore, we never feel a pure percept without some form of judgment. Then, why should we keep this concept in our theory? Is it reasonable to distinguish two concepts that actually are never experienced separately?

It is true that we never feel a pure percept, but there are many experiences that testify to its existence. There are situations in daily life where representation finds an unexpected obstacle and we feel an almost pure sensation of vividness preceding mediation. This happens, for instance, when we hear a person speaking a language we don’t know, or when we look at a drawing without

²⁵ A.N. Whitehead, *The Anatomy of Some Scientific Ideas*, in *The Organisation of Thought. Educational and Scientific*, London e Philadelphia 1917

²⁶ EP2: 177

²⁷ C.R. Hausman *In and Out of Peirce’s Percepts* in «Transactions of the Charles S. Peirce Society», Vol. XXVI, No. 3, 1990, p. 296. See also R.F. Almeder, *Peirce’s theory of perception*, p. 103

immediately understanding what is represented. These are not 'pure' percepts because we always make an attempt to interpret the fact we hear or see. Nevertheless, we can conclude that perception should not be reduced to judgment.

The last remark, I would suggest, highlights the relevancy of novelty in perception. Percept, at least in Peirce's philosophy, is often connected to the experience of surprise.²⁸ Mediation or representation is pushed in the background when the fact observed exceeds our common interpretation. Thus the percept represents the perennial possibility that something new may happen, upsetting our expectations, but broadening at the same time our knowledge. This is the most important reason that should drive us to take percept and presentational immediacy in the proper consideration.

²⁸ EP2: 150; CP 5.52-53.