Sense for non-sense.
Review of *Enactive Cognition at the Edge of Sense-Making. Making Sense of Non Sense*

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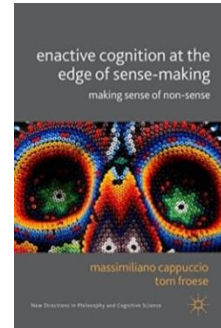
Abstract

The book edited by Massimiliano Cappuccio and Tom Froese is aimed at understanding non-sense in cognition and the process of sense-making. The authors of twelve chapters included in the book focus on different aspects of sense-making in diversified aspects of cognition. The texts included in the book show that sense-making is one of the most important aspects of cognition in general. They put the enactive perspective to the problem, which influences the overall reception of the book. Since enactivism has strong philosophical implications, not everyone will agree with the positions proposed by the authors, and some of the chapters are non-canonical even in their views on enactivism. However, even readers not accepting this approach might find the book interesting and thought provoking.

Keywords: enactive cognition; sense-making; perception; non-sense; motor cognition; understanding.

Introduction

Sense-making in the cognitive process is a non-trivial phenomenon, yet not a widely studied one. Enactive approach to studying human consciousness (or any other approach, actually) requires tackling the issue of sense-making. The first question is: What is the sense and what is the non-sense? Where does the border between these two lie? Is the non-sense simply the lack of sense? Or is it maybe a set of perceptions "waiting to be conceptualized"?

The book edited by Massimiliano Capuccio and Tom Froese targets the very border between sense and non-sense, viewed from many different perspectives, all within the general paradigm of enactive cognition. The essays are quite far from confronting other approaches to cognition or from tackling the anti-enactivist critique. Instead, they are rather focused on providing the reader with a general idea on where to start when analysing the idea of non-sense in relation to different philosophical sub-disciplines.

The main word to describe the book is "a cross-section". There are twelve chapters in the volume, but the foreword also needs to be counted in, raising the overall number of papers to thirteen. On a technical note, citations from year 2014 not mentioned in the bibliography as well as direct page citations refer to the chapters in the book reviewed.

Book content

The aim of the book is to comment from multiple, sometimes very diverse perspectives on the problem of sense-making, and on the nature of non-sense. The problem is depicted as something situated outside our comprehension, but yet so present in everyday cognition (Cappuccio & Froese 2014). Cognition, according to Ezequiel Di Paolo, can be described as a process in time, a process of constant sense-making where cognitive action is an attempt to make sense of the available set of (initially) nonsensical data. This sense-making process is supposed to be one of the most important fractions of mind (Di Paolo 2014). What happens when our minds extract sense from such data? What happens with every other sensory or intelligible data still present there, in the world, for our minds? Since they are not sense, they make no sense, so as a result they must be non-sense. Therefore, non-sense has at least two major roles. Firstly, non-sense is the basis for any cognition—aggregated data before sense-making are just non-sense. Secondly, non-sense is the background noise in the cognitive process. The remains of cognitive process, data not included in the processed sense are non-sense, waiting to become (or not) sense at some point. In this perspective non-sense establishes the border, which in turn constitutes the sense, simply by being on the other side of this border (Di Paolo 2014). Therefore, sense-making in this context is characteristic of enactive approach, as it is a part of adaptive coupling between the data from the world (Cappuccio and Froese 2014), at least at the basic level (Hutto & Myin 2012).

Sense-making can be treated as the one of most important processes shaping human (or non-human) cognition. In the Foreword, Ezequiel Di Paolo suggests that all cognition could be treated as management of non-sense, since the most substantial role of mind is to *make sense* out of things (Di Paolo 2014). Sense-making is the absolutely basic experience of a cognitive subject

immersed in the surrounding environment—being the closest to the subject, peripheral space is the first set of stimuli encountered by the subject and simultaneously establishing the first active cognitive coupling with the subject's mind. If the sense-making is treated as the basic activity of mind, then all the other aspects of human cognition can be analysed as derivatives of this process. For example, there are concepts treating aesthetics as an experience facilitating sense-making process through involving emotions into the subject-world interaction (Xenakis & Arnellos 2015).

The book presents many varying approaches to the topic of non-sense as well as sense-making. The chapters are divided into three groups: Theory and Method, Experience and Psychopathology, and Language and Culture. The group names generally describe the book contents well. The chapters in the first part revolve around presenting selected theoretical problems and applications of the enactivist concept of non-sense to various philosophical disciplines (e.g. cognitive science—as Dotov & Chemero do, or evolutionary biology—as Leavens does). The chapters of the second part investigate the concept of non-sense in the context of psychological experience, both sane and pathological. The third part groups essays exploring different contexts of the non-sense and sense-making in culture(s). While the scope of the book seems to be wide, all of the chapters rather strictly revolve around the aspects of non-sense and sense-making.

As mentioned above, the idea behind the publication is the assumption that sense-making and non-sense management are actually the most basic aspects of cognition, or maybe even the goal of cognition. In this case, the broad perspective of many different approaches to the topic becomes the most reasonable concept of one of the first books on enactive approach to non-sense. Sense-making is equally present in studying human cognition, along with psychopathologies, and in evolutionary biology, quantum physics and cultural studies (as in Scrianzi 2015).

The chapters

The Introduction and the whole first section of the book is focused on acquainting the reader with the general ideas on non-sense in cognitive science and cognition theories. In the Introduction Massimiliano Capuccio and Tom Froese present the basics of sense-making in terms of terminology and the essential problems related to the issue.

Chapter 2. Dobromir G. Dotov and Anthony Chemero in their chapter come down to the basics of enactive cognition. Sense-making, they argue, lays at its very bottom. It also constitutes an essential part of any cognition. Their main point is that sense-making is actually in the movement. This means that the mind is not able to produce any sense unless it is in constant interaction. The

action-perception cycle is, of course, a basic notion in enactivism; however, the chapter authors argue that it is essential in making sense out of the world. "Sense-making is the activity of bringing forth a meaningful world via coupled perception and action" (p. 38). To describe the sense-making process, they apply to this problem the Heideggerian classification of tools: ready-to-hand (invisible tool), unready-to hand (tool visible), and present-to-hand (tool requiring adaptation). They argue that we can consider applying these categories when discussing sense-making. In this case the world in relation to the body becomes the Heideggerian hammer.

Chapter 3. In his chapter Michel Bitbol tries to introduce enactive sense-making practice into the modern physics research. He argues that quantum physics differs significantly from other scientific disciplines due to contradicting the classical view of meaning ascription as representation-making in science. In quantum physics this is, according to the author, at least problematic. He therefore offers an alternative route towards understanding quantum theory—non-representational Zen Buddhism, especially the Buddhist practice of Koan.

A koan is a shocking and, at the first glance, senseless expression, usually quoted in the form of a dialogue between the master and the disciple. Its original purpose is to defy logic and transgress the usual paths of thinking, all of that in order to liberate the mind of an adept of Zen Buddhism (Heine & Wright 2000) from logical presumptions.

According to Michel Bitbol, quantum physics is too paradoxical to let us create its comprehensive theory within the western scientific paradigm. His proposal is then to approach the quantum theory with the teachings of Zen Buddhism, especially applying Koan practice to it, as the theory itself can be understood as a koan. The author proposes that the readers should abandon the Western paradigm of doing science and embrace Zen Buddhist practices when analysing quantum theory.

Chapter 4. David A. Leavens offers in his chapter a new perspective on the studies of primates' cognition. He points out that cognition researchers should make sharper distinctions between the subjects of their research. In his classification apes can be wild, institutionalized, and enculturated (in the human manner). Wild apes are the ones which at the moment of examination are living in their natural habitat. Institutionalized apes are the ones who have been captured or born in the institutions created by humans, but have not been taught any human-like activities, and have been mostly left to themselves. Enculturated apes are the ones who have been from the start taught to perform human-like activities and have been regularly given educational tasks. The author points out that enculturated apes perform better in human-designed cognitive tasks, which seems to be an evident factor. However, Leavens shows that the individual history of each studied ape has not been

analysed in most of the published cognitive studies. Therefore he argues that the life story of each primate research subject must be examined and taken into account when preparing a cognitive experiment.

Chapter 5. The fifth chapter presents a new paradigm in immunology by involving the concept of sense-making in the analysis of immune systems. According to John Stewart, the author of this chapter, in classical immunology the immune system is seen as an input-output system, where the input is an antigen perceived by the system and the output is the immunity reaction ("the immune system perceives everything *except* its own body", p. 105; emphasis in the original). Stewart claims that immune systems should be viewed as the autopoietic systems, where the perception of the threat to the organism actually constitutes both the system and the threats.

The author argues that it is impossible to state at the moment whether the new paradigm introduces significantly new values in the immunology. As he writes: "(...) as a scientific community, we are woefully ill-equipped to answer it" (p. 120). He calls to reconsider the immunology paradigm in the context of autopoiesis and think whether making sense in the context of immune system is not more relevant than we might think.

Chapter 6. The sixth chapter opens the second part of the book, which is focused on experience and psychopathology. In this chapter, authored by Natalie Depraz, a connection between surprise and non-sense is revealed. These notions are not equivalent; however, they are reciprocally woven together. The key point of interconnection between them is the peculiar set of emotions involved in experiencing both phenomena.

The author brings forth the notion that enactive cognition requires the organism to be led by the outside world and upcoming possibilities. The new stimuli encountered by the organism might always come as an experience of non-sense as well as an experience of surprise. More than once they are perceived as both simultaneously. This is compliant with the enactivist hypothesis assuming a structural coupling between the perceiving subject and the world. This time- and world-embedded process must from time to time involve a non-coupling. This is the moment, according to Depraz, where non-sense and surprize happen. The author also insists on introducing the notions of surprize and non-sense to enactive cognition studies in a wider manner, as there are irreducible alterations between the cognitive subject and the world which never will be overcome.

Chapter 7. The author of the seventh chapter—Michael Beaton—follows a line of argumentation similar to Depraz's although his goal is slightly different. In his paper he aims to "defend the thesis that we perceive only what we understand" (p. 153). Yet, as he admits himself, it might be contradictory to the fact that people learn things they are yet to understand. He tries to overcome this

contradiction by engaging the theory of direct perception in his argument. Beaton distinguishes sensations from perceptions and experiences. In his argument sensations are necessary to perceive, but perception needs basic sensations. A singular sensation, according to Beaton, is just not enough to have a full perception of an object. For that, sensations must be multiplied. This process of collecting many sensations to create a perception of an object in further development implicates learning. Thanks to collecting sensations and perceptions, the subject starts to notice patterns emerging from the sensations, which finally leads to knowledge. The author calls it "implicit learning", and puts it as a reason for abandoning the representationalist paradigm of science in favour of the direct, enactive one.

Chapter 8. Chapter eight is focused on the non-sense appearing in psychopathological experiences, mostly in cases of schizophrenia. Daria Dibitonto, the author of this chapter, states that schizophrenia symptoms are reified imaginations. Therefore it is necessary to analyse schizophrenic experiences from the point of view of phenomenological psychology, including analysis of imagination as the key faculty in making sense of non-sense.

The symptoms of schizophrenia are hard to define in the sense—non-sense opposition. They are non-sense for sane people, yet they make completely reasonable sense to people suffering from schizophrenia. Dibitonto argues that one of the main prodromal disturbances in schizophrenia is the feeling of disembodiment and self-alienation. It can be directly related to the enactive view on cognition—the feeling of disembodiment must come from the disruption of autopoietic action-perception coupling. According to the author, such a case might only take place because humans have imagination capable of creating perceptions similar to the genuine ones, which come from the senses. The feeling of non-sense of these reified imaginations is somehow disturbed, as the normal perception coupling with the world seems not to work properly in these cases.

The author admits that it is yet to be established how the prodromal feelings of disembodiment and self-alienation contribute to the development of full-blown schizophrenia.

Chapter 9 opens the third and final part of the book, which concerns the linguistic, cultural, and social aspects of enactive sense-making hypothesis. In this chapter the author Elena Clare Cuffari investigates "the ethical and epistemological consequences of enactive notion of languaging as whole-bodied, intersubjective sense-making" (p. 207). It is a non-trivial question within enactive cognition hypothesis, as autopoiesis and other parts of enactive theory assume radical autonomy and self-centeredness. Therefore, misunderstanding is woven into the social cognition and languaging—each person is on its own in the task of sense-making during communication.

The author argues that the establishing of shared sense happens in a three step move. Firstly, a person has some presupposed sense that he/she believes everyone shares. Secondly, this presupposed sense is disturbed by interactions with others. Thirdly, new, locally produced and intersubjectively afforded sense appears. It makes communication slightly more complicated than it was previously believed by enactivists, mostly due to the need to overcome non-sense that appears in the second step of establishing sense. Cuffari argues that understanding of this is necessary to be mindful about ethical consequences of sense-making, and of the values that are in play at the very beginning of any sense-making.

Chapter 10. The tenth chapter, co-authored by William Michael Short, Wilson H. Shearin and Alistair Welchman, aims at bringing the philosophy of a French thinker Gilles Deleuze closer to enactive theory of language. The authors focus mostly on the views of Deleuze expressed in the book *Logic of Sense*.

The authors compare Deleuze's book and some fragments of his selected works (also co-written with Félix Guattari) with works of a philosopher working in the embodied and enactive paradigm. According to them, Deleuze's philosophy can be seen as deeply connected with enactive philosophy of sense-making. However, their work is so detail-focused that it is impossible to investigate it here with proper attention.

Chapter 11. In the chapter by Juan C. González, Huichol (an ethnic group from Mexico) shamanism is presented as deep knowledge of sense and non-sense. Thanks to this, the author claims, Huichol shamanism with all of its practices (including the use of a strong psychedelic drug—peyote) can perform a significant role in maintaining mental health of individuals and whole communities.

The author claims that one's logic and even the whole notion of the world or notion of the embodied self can be disrupted and treated with these practices. He brings forth the actions of Huichol shamans, who administer psychedelic drugs to people in order to cause a temporary mental crisis. Such episode is in its nature an experience of non-sense. According to the author, this allows people so treated to overcome their mental (mostly existential) problems. Although Gonzalez states that the therapy is normally immersed in the context of Huichol cosmology, which gives a very particular meaning to such experiences, he also states that such treatment might have wider application, outside the Huichol culture.

Chapter 12. In the twelfth and final chapter of the book Michele Merrit presents cases of "nonsensical gender", i.e. breakdowns in gender identity and identification. The author advocates for making sense out of such breakdowns through more nuanced approach to the topic. In the paper, gender is

treated as a social institution, no different from other networks in the society. According to the author, gender is a distributed network, built in human convictions and containing several markers, like clothing or behaviour in certain aspects. Encountering a person who does not fit into any slot in the gender qualification causes in people an experience of nonsense.

The author states that gender exists mostly in the network of interactions and constant identification by others. Therefore gender identification can be made instantly and also suddenly re-made during a gender identification breakdown.

Discussion

It is hard to analyze all of the topics in their full variety, so I will briefly discuss just a few of them. First, I would like to address the chapter that is least convincing to me—Michel Bitbol's idea of adopting koan practice into modern physics, or rather a call to reinterpret quantum mechanics as a contemporary koan. I don't think that disrupting the "western logic" attacked by the author would help understanding quantum mechanics. Is it not this very "western logic" that led to the discovery of the quantum world? I cannot imagine what the further research in the field would actually look like when the current paradigm which brings us new discoveries in the field all the time would be discarded.

I do not find convincing the idea of Juan C. González that psychedelic experience of nonsense is a valid way of therapy in existential mental problems. I find suggesting such strong statements without proper medical research disturbing. I do not claim that such situation is impossible, or this is not a valid field of research. I just find the claims of the author too strong for the evidence and theoretical background he provides.

As for the definitely strong points of the book—the chapter by Dotov and Chemero is certainly worth recommending for someone interested in the field of enactive cognition, yet it lacks a general idea of how enactive cognition works according to its proponents. Ideas are put forward simply and consistently. The same may be said of the introductory chapter authored by editors of the book.

I also found the part prepared by David A. Leavens very interesting. The chapter seems to present very basic results, yet the examples shown by the author prove that the main argument of the paper is not obvious for many researchers in the field of primate cognition studies. The argument is solid and based on examples from studies carried out by cognitive scientists. The chapter could be interesting not only for cognitive scientists or primatologists,

but also for philosophers of science, as it is showing an evident influence of details on the outcomes of cognition research.

Finally, I would like to recommend the final paper by Michele Merritt. Her idea of looking at gender as a distributed network or a social institution is certainly an interesting point for philosophical feminism and adjacent fields, as well as the idea of treating gender identification as a sense-making process. This is the part on which I would like to make a slightly more extensive comment, as I find the idea of studying gender as part of human cognition paradigm quite interesting.

Merritt bases her claim on the premise of external support given by our environment to our cognitive capacities. Her main background claims are derived from Clarke and Chalmers' paper "The Extended Mind" (1998) and Gallagher and Crisafi's paper "Mental Institutions" (2008). Gender thus can be considered as a social institution extending our cognition. This approach takes it a bit further than it was originally proposed by Gallagher & Crisafi (2008). Gallagher in the paper "The Socially Extended Mind" (2013) suggests that social institutions (such as law or just traditional, common practices) can play the role of cognitive extensions, the same way notebooks do in the classical Clark and Chalmers' example. The idea might be also supported by Margaret Wilson's (2002) idea that we actually off-load some of the cognitive *work* onto the environment, sometimes by grouping the physical objects, but sometimes by making the *symbolic off-loading*, i.e. grouping objects (including people), experiences or events under symbolic labels. Such labelling, according to Wilson, helps us manipulate the reality faster, at the expense of omitting some nuances.

But we can also look at the problem of gender a little bit differently. We can think of gender as a part of cognitive scaffolding. In such case the notion of gender should be considered as a part of mental construction supporting our cognition of a higher level (as in the scaffolded mind hypothesis—see: Williams, Huang & Barth 2009). Gender identification would play a similar role as the abovementioned symbolic off-loading; however, its role would be more crucial, as it would in some ways constitute other cognitive capacities.

There is a reason I suggest this slight expansion of the theoretical background to this topic. I believe that Merritt should face a couple of problems when advocating for more cognitive breakdowns in our gender identification practice. Such advocacy is risky for several reasons which I would attempt to put forward here. Firstly, Merritt claims that

> [b]reakdown serves an important function for cognition generally, as it opens up a space for a particular conceptualization of the world. This conceptualization is not found during everyday, non-problematic thinking and doing—what we might call the non-reflective mode—and yet it is necessary component of a more reflective mode of thought that may or may not involve abstract or rational cognition. (p. 296)

As an argument for such case Merritt puts forward the Heideggerian hammer—the situation that occurs when a tool used fluently suddenly breaks down and forces us to reflect on its nature and functionality. In this case the hammer is the gender labelling we perform every day. However, author does not say anything that would exclude the possibility of reflection upon gender without any breakdown. This is not trivial because if we look at gender Merritt wants us to look at and we consider gender as a part of social institution, a distributed network, we see that gender is entwined in a series of social practices and other institutions.

Let us consider the legal system. On the one hand it establishes the gender identity, but on the other, it regularly depends on it. Every breakdown of gender identification might also be a problem for the legal system (in this particular example).

Otherwise, when we consider gender in the context of Margaret Wilson's claim that off-loading of cognitive processes to external symbolic systems simplifies for us operating in the world, abandoning of one of such categories (and a major one!) must affect our cognitive abilities. For example, the constant need to participate in gender identity might be a huge cognitive task for which we have to find time and energy.

Just these two problems need to be reflected upon more deeply when advocating gender-related cognitive breakdowns. However, these are obviously not arguments against looking at gender as a cognitive distributed network or a social institution. They are just a mere call for more research and deeper understanding of the problem.

Summary

The book edited by Massimiliano Cappuccio and Tom Froese is a must-have for people involved in enactive cognition research. It introduces the non-trivial problem of sense-making and overcoming non-sense, sometimes even by embracing it. It is also a valuable reading for everyone focusing on the fields discussed in the particular chapters. Although I do not agree with certain parts, the whole will make a good read for anyone looking for a solid book on enactive cognition.

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