Enactive Cognition at the Edge of Sense-Making:

Making Sense of Non-Sense

Edited by Massimiliano Cappuccio and Tom Froese

Both editors contributed equally to this book.

Table of Contents

List of Illustrations
Acknowledgements
Notes on Contributors

Foreword to Making Sense of Non-Sense
Ezequiel A. Di Paolo

1. Introduction to Making Sense of Non-Sense
Massimiliano Cappuccio and Tom Froese

PART I: THEORY AND METHOD

2. Breaking the Perception-Action Cycle: Experimental Phenomenology of Non-Sense and its Implications for Theories of Perception and Movement Science
Dobromir G. Dotov and Anthony Chemero

3. Making Sense of Non-Sense in Physics: The Quantum Koan
Michel Bitbol

4. The Plight of the Sense-Making Ape
David A. Leavens

5. Immune Self and Non-Sense
John Stewart

PART II: EXPERIENCE AND PSYCHOPATHOLOGY

6. The Surprise of Non-Sense
Natalie Depraz

7. Learning to Perceive What we do not yet Understand: Letting the World Guide us
Michael Beaton
8. No Non-Sense Without Imagination: Schizophrenic Delusion as Reified Imaginings Unchallengeable by Perception
Daria Dibitonto

PART III: LANGUAGE AND CULTURE

9. On Being Mindful About Misunderstandings in Languaging: Making Sense of Non-Sense as the Way to Sharing Linguistic Meaning
Elena Clare Cuffari

10. Deleuze and the Enaction of Non-sense
William Michael Short, Wilson H. Shearin and Alistair Welchman

11. Traditional Shamanism as Embodied Expertise on Sense and Non-Sense
Juan C. González

12. Making (Non)sense of Gender
Michele Merritt

Index
1 Introduction to Making Sense of Non-Sense

Massimiliano Cappuccio and Tom Froese

“Don’t for heaven's sake, be afraid of talking nonsense!
Only don’t fail to pay attention to your nonsense.”
Ludwig Wittgenstein (1998, p. 64)

1.1 Wittgenstein's philosophical challenge: Speaking about non-sense, without speaking non-sense

Ludwig Wittgenstein, in the attempt to take as far as possible a “naïve” correspondentialist and representationalist view on language (Hutto, 2004), had to face a resilient philosophical puzzle on the nature of nonsensical propositions (Wittgenstein, 1921/2001, 4.01): if our knowledge of the world is necessarily delimited by its representations, then what should we say about nonsensical expressions that represent nothing at all and that, nonetheless, allow us to relate to what is most valuable in our lives? If non-sense is situated outside the “limits of our language”, which bi-univocally correspond to the articulations of ontology (the “limits of our world”), then why is it the case that our words can capture the very notion of non-sense, allowing us to concur on its meaning? How is it possible that we know how to efficaciously respond to nonsensical expressions, and our beliefs seem affected by them in ways that are characteristic and significant?

Non-sense is neither imputable to the falsity or vagueness of representational content, as these flaws could well be compatible with the normativity of representationalism (inexact isomorphism does not undermine isomorphism as a criterion of truth), nor to mere absence of sense: according to Wittgenstein, our language is “senseless” (sinnlos) when it tries to represent the preconditions of its very semantic function, and this can be disconcerting for a representationalist view of language, but there is nothing nonsensical in such a limitation. The propositions of logic - such as tautologies and contradictions - or mathematics, or the pictorial form of our pictures, have no sense,
because they don’t stand for any state of affairs in the world (Wittgenstein, 1921/2001, 4.0312). Senseless but significant, endowed with truth-values and an identifiable declarative form, these propositions “scaffold” the very possibility of contentful representation and, even if they do not represent anything within the boundaries of the world, they are all we have to gesture at these boundaries. That is why the very possibility of representing (“the logic of the facts”, idem) seems non-representable: not only the illogical structure of ungrammatical expressions, but also the well-formed structure of meaningful expressions, are beyond possibility of representation.

Compared to the senseless, proper non-sense gestures at a more specific kind of non-representability, which is not just confined to the borders of our language/world, but ranges beyond them, displaying an ulterior domain (ibid., 5.61). According to Wittgenstein, nonsensical propositions are a sub-category of the senseless ones, thus his characterization of non-sense is narrower and even more puzzling. Truly nonsensical (unsinnig) propositions are not just devoid of clear denotational content, like the senseless ones: as they don’t exhibit any recognizable logical form, they seem transcending the very purpose of representation. Not only their declarative content is uncertain, but also the very fact that they have a declarative form, and that is why their truth conditions appear unknown and mysterious. “Pseudo-propositions” such as “Socrates is identical” (ibid., 5.473), but also formal concepts like “There is only one zero”, “there are objects”, and “2+2 at 3 o’clock equals 4” (ibid., 4.1272) are not just devoid of a clear denotational referent: their truth conditions – if they have any - are not even thinkable, as they gesture at “things that cannot be put into words”; but, adds Wittgenstein in a famous remark, “they make themselves manifest. They are what is mystical” (ibid., 6.522), i.e., they suggest a domain of significance that transcends positivistic representation of the world while having a pervasive presence in our life.

Surprisingly, whether such propositions are well-formed or not, their communicative intent can be intuitively efficacious in affecting our beliefs and motivating our actions: all the philosophical propositions of ethics and aesthetics (ibid., 6.421), and traditional metaphysics belong to this group of utterances (ibid., 6.53). Puzzlingly, most of our knowledge (and most of the Tractatus itself!) is made of such nonsensical propositions (ibid., 4.0003). While the logic of their use is not rule-based, it compels us to regulate our
life, and this idea will famously inspire the “language games” theme in Wittgenstein’s late production (Wittgenstein, 1953/2009, § 2, 23, 65; see Hutto, 2004, pp. 137-138). However, in the Tractatus, Wittgenstein is still attempting to account for the paradox of non-sense (i.e. that which is meaningless, but effective in our practices of knowledge) by contrasting two incomparable modes of signification, referred to as “what can be said” and “what can be shown” (Wittgenstein, 1953/2009, 4.1212, p. XI), which we could re-interpret as a contentful and a directed form of cognition, respectively (this distinction solicits various questions on the possibility of direct perceptual experience before and below conceptual categorization. Even if re-contextualized in a different debate, these are some of the philosophical questions challenged by Beaton’s chapter in this book). In fact, if a merely representational approach to meaning might not account for all the possibilities of cognition, then another – non-representational - form must be possible and necessary: an immediate presentation of the existent, one that does not require internal mental states to be matched with external states of affaires, and for which “truth” does not indicate a norm of adequate correspondence.

1.2 Enactive theory and non-sense as challenges to the non-representationalist approaches to cognition

Wittgenstein treats non-sense as a paradox situated at the core of his philosophy of language, but his reflections are significant for a broader consideration of non-sense as a crucial experiential event that, once understood in its typical form and pre-linguistic preconditions, can reveal an underlying embodied cognitive architecture. Interestingly, the same puzzles that affected Wittgenstein’s representational theory seem to be challenging today the non-representational theories of cognition and knowledge formation. During the last twenty years, the cognitivist approaches to cognitive science have been gradually supplanted by embodied-embedded and enactive approaches (e.g. Dreyfus, 2002a,b; Gallagher, 2005; Varela, 1995; Thompson, 2007; Noë, 2009; Di Paolo et al., 2010). The latter, in opposition to the former, consider representation neither as a primitive explanatory element of intelligence nor as a constitutive ontological building block of the mind. Not to minimalize this trend, but in recognition of its significance, this book wants to
highlight that the problems concerning the nature of non-sense, unsolved by the representationalist cognitive science, need even more urgently a solution by the non-representationalist one: the latter - as opposite to the former - cannot account for non-sense in terms of failed or impossible representation, as they don't recognize the same normative efficacy to the distinction between representational (well-formed) and non-representational (anomalous) forms of intelligence.

In fact, the enactive-embodied theory assumes that what was considered an anomaly by the tradition is actually the norm, as mental functions prevalently emerge from a background of practical engagement in which meaning is pure know-how learned through unprincipled interaction with the world. On this view, cognition is primarily a relational form of meaningful engagement, or sense-making (Weber and Varela, 2002). But what kind of process does regulate sense-making then, if nonsensical, senseless, and fully meaningful experience equally all depend on an undifferentiated background of situated engagement? Or, to put it differently, if all cognition is situated sense-making, then how shall we account for cognition of the absurd? How should the enactive theories characterize non-sense, and the fact that it plays a major role in our cognitive life through abstract and symbolic concepts? The problem is not only that enactivism cannot rely on wrong, missing, or “blank” representations to differentiate between meaningful and nonsensical events, but also that it often seems to implicitly assume that every directed form of practical engagement with the world not only can but – to some extent - must be inherently productive of sense (Froese, 2012). But is it correct to assume that the cognitive horizon described by enactivism is entirely saturated with sense?

To illustrate this problem, we must introduce the non-representational embedded-situated theories of sense-making, which interpret adaptive intelligence as an immediate organismic responsiveness to the relevance of contextual contingencies; in particular, according to the enactive approach to cognition, all organisms are structurally predisposed to make sense of their world-environment in terms of opportunities of perception and movement, whose reciprocal co-implication is established during interaction with real-life circumstances. These opportunities are disclosed either to individual agents or, importantly, in a participatory way, when their social interaction brings about coordinated forms of perception and joint awareness (De Jaegher and Di Paolo, 2007; Fuchs and De
Jaegher, 2009; Torrance and Froese, 2011). Interestingly, not only the world of the agents is defined by their coordinated social interaction, but the identity of the agents themselves, with their specific features, including importantly gender and gender perception (see Merritt’s chapter, in this book, for a circumstantiated analysis). Intelligence (including social intelligence) does not find its foundation in explicit decisional processes mediated by internal models, supra-modal representations of an objective external world, stored heuristics, declarative contents, or formal inferences; on the contrary, it emerges from the unprincipled adaptation of a living system whose intrinsic pragmatic dispositions and narrative habits progressively adjust to reach a structural attunement with the environment, tending towards a dynamical balance with its contingent fluctuations (Gallagher, 2008a; Gallagher and Hutto, 2008). This notion of intelligence as direct know-how opposes the intellectualist biases of classical cognitivism (Hutto and Myin, 2013), modeled in the image and likeness of exquisitely human practices of knowledge, preferably based on literacy proficiency and culture-specific aptitude in formal thought. Enactivism challenges the anthropocentrism implied by this view (see in particular Leavens’ chapter, in this book, for a systematic argument against such an anthropocentric approach to cognition); it remarks that these forms of cognition constitute the explanandum in the scientific discourse on the evolution of intelligence, not the explanans, and claims that a better awareness of the biologically and historically situated foundations of cognition is needed. Paradigmatically, enactivism revolves around animal processes of meaning formation that at root are organism-centered, environment-specific, and goal-directed, i.e., incarnated into dynamic relationships rather than stored informational contents, shaped by material contingencies rather than computational algorithms (Thompson, 2007, 2011).

1.3 Sense-making as adaptive coupling between living body and world-environment

Inspired by a well-established tradition in bio-semiotics (von Uexküll, 1934/1957; Barbieri, 2006) and phenomenology (Merleau-Ponty, 1945/1962), the enactive approach to cognition (originally introduced to describe the role of embodied action in perception, see Varela, Thompson, and Rosch, 1991) assumes that the distinctive characteristic of a cognitive system is its continuous engagement in the active constitution of a meaningful
“world-environment” (*Umwelt*). The world-environment is essentially irreducible to the natural world described by the empirical sciences (the scientist himself, while running his experiments, is a cognitive system that enacts a peculiar world-environment, with its peculiar experimental truth, as Bitbol’s chapter, in this book, reminds us). The system intimately belongs to its world-environment and always has a situated, teleologically oriented perspective on it (Di Paolo, 2005); perspectivism, in turn, is an ineliminable, constitutive feature of the world-environment itself. Autonomously orienting itself towards what is relevant to its subsistence, the organism actively adjusts the anticipatory trajectories of its behavior to dynamically regulate its conduct in the fuzzy, risky scenarios of real life. This regulation can legitimately be called intelligent because it does not mechanically react to limited sets of occurring stimuli on the basis of the statistical repetition of previous experiences, but also flexibly prioritizes between novel contingencies based on their contextual relevance for the survival of the organism, anticipating the incoming changes (various philosophers characterized this pre-reflective adaptation in terms of “motor-intentionality” guided by a situated normativity, rather than representations of rules and stored heuristics; see, e.g., Merleau-Ponty, 1945/1962; Kelly, 2000, 2002; Dreyfus, 2002a; Rietveld, 2008, 2012). This rich coupling with the environment, at once compensatory and anticipatory, exploratory and balance-seeking, is structured in accord to a protentive/retentive temporal dynamic (Varela, 1999) and is essentially realized by the sedimentation of habitual responses that are progressively refined, either in ontogenesis or in phylogenesis, through a history of successful interactions.

Enactivism stresses also that perceptual engagement and motor expertise are preeminent defining factors for the consolidation of the cognitive self (Thompson, 2005), as the interactive exploration of the peripersonal space (either through manipulation or navigation) is the primal situated experience for learning how to map the transformative meaning of one’s own actions into the opportunities offered by the perceived environmental affordances; in turn, it also emphasizes that the perceptual sensitivity to relevance is embodied in the physical constitution of the organism, either as passive filters realized by its morphology, or as anticipatory mechanisms relying on the formation of sensorimotor feedback loops (O’Regan and Noë, 2001; Noë 2004). Before and below
explicit judgment, sense-making depends on the interactive habits matured by the system that establishes a dynamic coupling with its world: this reciprocal belonging of living body and world-environment is the defining, non-metaphoric, underpinning of cognition itself, so that living and cognizing are modes of the same sense-making capability and therefore are, in their essences, co-extensive (Thompson, 2004). Materially extended over the dynamic interplay between nervous system, extra-cranial body, and extra-bodily environment (Virgo, Egbert, and Froese, 2011), the sense-making processes of an organism constitute its world as a significant context of action and experience, the bottomless backdrop of implicit and non-representable practical meanings that at once are informed by and inform the patterns of preferred intervention, the living system’s intrinsic sensitivity to relevant stimuli, and the characteristic emotional tones that globally modulate the ongoing body-environment adjustments (Colombetti, 2014).

Unsurprisingly, the enactivist concept of sense-making builds on a general constructivist epistemology of the living organisms situated in their specific niche. Enaction theory represents the cognitive-psychological complement of the paradigm of autopoiesis in theoretical biology, a key descriptive and explanatory doctrine that understands the living as a distinct type of homeostatic system whose peculiarity consists in counterbalancing environmental fluctuations to build and preserve its own internal functional organization (Maturana and Varela, 1980, 1987; Maturana, 2002). This compensatory process is an always-precarious negotiation that tends towards a relative stability through the constitution of self-organizing hierarchies of transient structures. The supervenience of self-organization over the component processes of the system defines the virtual boundaries between the internal and the external world of the organism, and endows the internal domain of the living being’s systemic processes with a distinctive identity (but territorial spatial concepts cannot account for the dialectic process that defines this identity: see Stewart, this book, for a deeper contextualization of this notion of identity). Autopoietic systems are defined as autonomous because, in spite of their precarious negotiation with the external fluctuations and the transitory nature of their constitutive processes, they actively preserve a stable organization that distinguishes them from the world in which they are situated. Their phenomenology is governed by the principle of operational closure, which asserts that the transitions occurring within the
organism can find a functional characterization only in reason of the specific horizon of organism-centered meanings that it enacts: this is the holistic backdrop against which single processes and events make sense to a particular living being, the immanent hermeneutic precondition of its sense-making capability (Stewart, 2000).

The precariousness of the living condition is not merely a contingent aspect of its realization, but essential for the enactment of meaning: without the ever-present possibility of the cessation of life there could be no sense of concern for life. The potential end of all sense-making is at the same time a necessary condition of possibility of all sense-making (Jonas, 1992). The complexity and the variety of the meanings of an organism's world-environment depend on the level of organization of the autonomous systems considered (single-celled and multicellular organisms, and large societies of multicellular organisms can all be described as autopoietic entities, and the nervous system itself is a system governed by operational closure; Varela, 1991). Even if some theorists suggest to distinguish enaction theory from the classical autopoietic paradigm (e.g., Froese and Stewart, 2010), the naturalistic approach based on their combination, committed to mechanistic explanatory models, phenomenology of first-person experience, and procedures of empirical validation, has produced groundbreaking theoretical models that deeply changed our way to describe the relationship between cognition and life (Froese and Stewart, 2012). If we take life to be autopoiesis plus adaptivity, then living is sense-making, and cognition is a form of sense-making (Thompson, 2011). On this view, there is no mind without life and no life without mind; there is no such thing as philosophical zombies or brain-in-the-vats (Hanna and Thompson, 2003; Cosmelli and Thompson, 2010). The main advantage of this approach, which interprets cognition as a sense-making capability of the living, is that it accounts for the radical context-sensitivity and rich adaptivity of intelligence, allowing a deep appreciation of its embodied and situated dimension against the intellectualist narratives tailored on higher forms of intelligence.

1.4 The puzzle of non-sense and the phenomenology of the uncanny

In spite of the originality of the enactive paradigm, its philosophical foundations are still haunted by the specter of Wittgenstein's puzzling question: if cognition is essentially a
process of sense-making, then how does the enactive approach account for non-sense? Is non-sense characterized by any specific form or content, or is it rather their lack that makes the occurrence of the nonsensical recognizable? What does exactly happen in the mind of a cognitive agent when he becomes aware of facing a nonsensical experience? These are the key questions that this book wants to address and articulate analytically, as they pressure the unitary paradigm of cognition as adaptive coupling, reaching deeply into the theory of life as a sense-making system. In order to present them, this introduction will initially build on the phenomenology of the *uncanny* as the prototypical form of nonsensical experience; subsequently it will discuss the theoretical options available to model its underlying mechanisms, under the assumption that first-person descriptive analysis can clarify the general architecture of cognition. Phenomenology, in fact, is the systematic and methodologically controlled examination of the conscious, qualitatively irreducible experience lived by a situated agent, aiming at highlighting the internal regularities and typical patterns of her intentional life (Gallagher and Zahavi, 2008). As phenomenology is the philosophical tradition that has exerted the deepest influence on the foundation of enactivism and embodied-embedded cognition (Varela, 1996; Rudrauf et al., 2003; Lutz and Thompson, 2003; Thompson, 2005), it is useful to refer to the existentialist phenomenology that first explored the intervention of the uncanny in everyday life.

In his most prominent philosophical treatise, *Being and Time*, dedicated to the situatedness of human life and the background of its meaning, Martin Heidegger famously captures the essence of non-sense with one of the categories of his existential analysis, the “uncanny” (*Das Unheimliche*; Heidegger, 1927/1966, § 40): a sense of disconnection experienced by a conscious intentional agent, indicated as *Dasein* (usually translated as “being-in-the-world”), when the familiar sense of its typical world-environment is lost. As the world of the cognitive agent corresponds, in its phenomenological constitution, to the ego-centered structure of its own perceptual field, falling outside the perimeter of his familiar environment inevitably coincides with losing the coordinates of its embodied self. Heidegger’s phenomenology backs the embodied-embedded and enactive models of cognition (Wheeler, 2005; Dreyfus, 2007; Kiverstein and Wheeler, 2012; Wheeler and Di Paolo, 2011), in that for both of them the concept of familiarity offers the implicit norm of a competent engagement with typical circumstances. This norm characterizes the subject’s
readiness to practically deal with the non-representable background of pre-categorical meanings (being-in-the-world) that scaffold, silently guide, and fill with experiential concreteness her activities. This pre-reflective, fluid, expert mode of interaction is called “ready-to-hand” by Heidegger (Zuhandenheit; see Heidegger, 1927/1966, § 15) and “absorbed coping” by Dreyfus (2002a).

The most radical events of suspension of familiarity are accompanied by a disturbing atmosphere of alertness and detachment that Heidegger (1927/1966, § 40) dubs “anxiety” (Angst). It resembles ordinary psychological affects such as fear, estrangement, and surprise, but it is both deeper and vaguer: it is not directed towards any particular intentional object, but towards an ubiquitous menace, which solicits a hypersensitive attentiveness that apprehensively interrogates Dasein’s familiar world, bringing to light its implicit and non-thematic features, re-orienting Dasein’s concern from the foreground to the background of the very structure of its consciousness. An anxious agent perplexedly scrutinizes not the items of his ordinary experience, but the preconditions of the intentional relation he entertains with them, as he is sensitive to the possible instability and arbitrariness of this very relation. The by-product of this attitude is that it unintentionally reifies the totality of his perceived world, which now stands before him as a brute fact, a neutral collection of inert objects devoid of intrinsic purpose or significance. This anxious contemplation suspends the typical relationship of coupling (“attunement”) with the world in which the subject had been pre-reflectively embedded (Ratcliffe, 2002): when tinted by anxiety, the facts of the world, while structurally unchanged, suddenly lose their characteristic practical or affective value, as they stop evoking in the agent its typical responses. For Heidegger (1927/1966, p. 189), this neutralization of the expected affordances is alienating but revelatory, because it shows (by interrupting it) the subject’s uncritical and unquestioned (“tranquilized”) absorption in his routinary relationship with the familiar (“being-at-home”), and solicits an estranged examination of the habitual subject-world coupling (“not-being-at-home”). This nomadic exploration is existentially more fundamental and authentic than being settled into a given frame of established customs and procedures, as the disenchanted wandering through the desert of bare existence - which entails the loss of the center and the examination of the boundaries of our world - discloses a harsher awareness of one’s own background,
breaking any conformist compliance with everyday routine. This theme is later further emphasized by Sartre both in his essays (1946/2007) and novels (1938/2000). That is why anxiety, while annihilating our usual coupling with the things, may turn it into an epistemological opportunity of awareness and presence. Developing a Nietzschean motif, we could associate the uncanny to a convalescence of sense: the recovery from the despairing fevers of non-sense promises a genuine rediscovery of what had always been unperceived because implicitly taken for granted, submerged by the obviousness of the familiar, of the normal, of the healthy.

1.5 Pathological anxiety and the un-ready-to-hand

That is why deviant and even morbid instances of non-sense can shed an insightful light on the ordinary constitution of sense-making. Through the systematic study of depressive and schizophrenic patients, the phenomenologically informed approaches to psychopathology and psychotherapy have extensively examined the alienating and paralyzing effects of the uncanny in the clinical expressions of anxiety (Jaspers, 1959/1997; Binswanger, 1959). These effects occur when the patient is compelled to look at his absorbed relationship with the world from outside himself, as if the centers of his agency and ownership were shifted beyond the stratified horizon of expert habits that he typically embodies (Fuchs, 2005). Interactive engagement with particular activities and contexts becomes unwieldy as the latter stand before the subject as an insignificant fact, a puzzling problem that concerns his own existential condition, prompting open-ended questions on the justification and the destination of his project of life (Froese, Stanghellini, & Bertelli, 2013). The imaginative elaboration on the nonsensicality of one’s own existence can override the perception of one’s reality, motivating delusional narratives that follow excruciatingly rigid and obsessively repetitive self-deconstructive patterns: the uncanny exposure of the background of sense that had always been implicit and silently assumed before anxiety, turns into a painful admission of its lack of foundation, disclosing its ultimate meaninglessness.

The cognitive trajectory of this process is what is most relevant in our discussion. If non-sense emerges from anxiety this is not because the fluid stream of habitual coping with
the world had been overlooked, forgotten, or impaired, but because it was objectified under the focus of hyperreflective consideration, turning into a petrified body of factual information virtually separated from its cognizer (for a rich analysis of this alienation, see Dibitonto’s chapter, in this book). Non-sense originates from anxiety because the agent cannot re-enact the spontaneity of his habits and routines when he reflectively stands before their presence, while painfully trying to rationalize them as mere contemplative facts, without engagement nor participation. Importantly, the nonsensical atmosphere of the uncanny is not simply produced by a malfunction of our adaptive skills, but by their efficacious exaptation under a new regime of decoupled, non-engaged, and hyperreflective assessment, in which the agent-world coupling has lost its spontaneity. The dramatic alienation that follows from pathological anxiety confirms by subtraction that it is by means of a continuous process of embodied and situated sense-making, as opposite to representation, that a typical cognitive system constitutes his familiar world-environment. But it also bears testimony that the breakdown associated with hyperreflection, through detached representation, can authentically be productive of sense, rather than merely destructive, because – if nothing else - it confronts the cognitive agent with the disturbing, but revealing, contemplation of the lack of objective foundation of cognition. Indeed, the groundlessness of mind and cognition was one of the original motivations for the enactive approach (Varela et al., 1991).

Anxiety is not the only possible neutralization of the subject-world coupling; it is just the most dramatic and disruptive form, involving the totality of one’s existence. Existential analysis describes lesser, non-pathological forms of loss of familiarity in everyday life. Heidegger (1927/1966, § 16) describes the “un-ready-to-hand” (*Unzuhandenheit*), i.e., the moment of unexpected breakdown of the expert ready-to-hand interactions. This event prompts a troubled, uncertain modality of practical engagement that (as confirmed experimentally by Dotov, Nie, and Chemero, 2010) occurs when the pre-reflective flux of interactions with familiar worldly circumstances is interrupted because of the malfunction, unreachableability, or obstructiveness of tools, producing challenging practical circumstances that force us to critically stand back from the context and reflectively develop a novel problem-solving strategy (see Dotov and Chemero, this book). The un-
ready-to-hand is the in-context, task-specific analogue of the world-involving, boundless experience of anxious uncanny.

Also this experience, according to Heidegger, has revelatory implications but, as opposite to the uncanny, these are local rather than global: the required practically oriented depictions of the ongoing situation can become manifest so as to plan appropriate decisions, indicating substitutive or emendatory directions of intervention. According to Wheeler (2005), “action-oriented representations” are the kind of cognitive devices that, extended over the brain and the environment, and encompassing both sub-personal mechanisms and personal level intentional acts, realize this function. They enable a new critical scrutiny of the practical context of activity in which the subject operates, soliciting her to explicitly depict the content of her cognitive acts. While adaptive skills operate in a pre-representational non-reflective mode during routine engagements with familiar contexts, the tasks carried out in a mode of un-readiness-to-hand require aware self-monitoring and deliberation, mediated by explicit knowledge expressed in a declarative and representational format. Anxiety is similar to the un-ready-to-hand in that both of them disclose the brute factuality of the context in front of the subject, prompting a concerned interrogation on the preconditions of the expert subject-world coupling, and asking the subject to establish what norms govern that context of activity. Deliberation suspends the unreflective absorption in the automatic flux of expert activity in both anxiety and un-ready-to-hand. However, while anxiety reaches into a bottomless abyss of familiarity that is the existential situation of the subject, unveiling its groundless, limitless, backdrop, the un-ready-to-hand discloses through a clear-cut representation the isolated contexts of familiarity and the dedicated adaptive competences coupled with them.

According to Wheeler (2005, 2008), whose analyses are largely in line with Dreyfus (1991, pp. 69-85), the un-ready-to-hand is the moment in which enactive skills, facing their contingent failure as purely pre-reflective dispositions, evolve into a more reflective and detached form of intelligence, soliciting the development of proto-representational or minimally representational modes of cognition. Cappuccio and Wheeler (2012) further elaborate on this idea, suggesting that symbolic culture is based on the production of action-oriented representations during social practices (e.g., joint attention through index finger). Enactive and interactionist approaches to social cognition are inclined to reject this
minimally representationist model, either pointing out that action-oriented representations re-introduce by the back-door some outdated cognitivist assumptions (Hutto, 2013), or that, in spite of their name, they are actually not representations at all (Gallagher, 2008b). On the other hand, it has been argued that only such minimally representationalist line of speculation allows us to appreciate how the most sophisticated forms of joint attention necessarily involve a public awareness of the discontinuity in the communal engagement of a plurality of subjects (Cappuccio and Shepherd, 2012; Cappuccio, 2014). Therefore, action-oriented representations constitute a theoretical option that enactivism may or may not want follow.

If the line of argument based on action-oriented representations is both phenomenologically and empirically correct, then the enactivist picture would need to be complemented by contents that are only minimally representational: this means that, in contrast to the representations theorized by cognitivism, action-oriented representations are not necessary building constituents of our intelligent skills, but tentative scaffolds of precarious practical activities, which contingently emerge against a background of failed adaptive skills when these skills are re-used to face unfamiliar cognitive tasks. This model would match the phenomenological evidence that, in an un-ready-to-hand activity, nonsense is produced by self-monitoring that does not paralyze action, but discloses entirely new opportunities of action-planning through minimal forms of representation that are context-specific, goal-oriented, transitory, and perspectival. This practical modality of representational intelligence compensates for the discontinuities in the usual sensorimotor engagement and administers the economy of the delays in the sense-making processes (Clark, 2006).

Importantly, it is also creative and productive of new layers of sense, not only because it facilitates mindful problem-solving and decisional processes, but especially because it indicates how to modify one’s own subjective perspective on a certain context of action. This modification is instrumentally obtained through the manipulation of the representation of the context of action, which offers a distinct normative content to evoke the psychological scenario for one’s performances (Cappuccio and Wheeler, 2012). In fact, the Heideggerian notion of “signs” (Heidegger, 1927/1996, p. 71) essentially captures the capability of action-oriented representations to identify and stand-in for entire contexts of
practical use, explicitly highlighting the rules of the context in which we are situated. They can become vicarious means to manipulate information on these contexts in their absence, or to switch between different contexts guided by their temporary and partial representations, allowing an agent to actively deliberate on how to intervene in them and on them. Action-oriented representations offer the most basic way to deal with everyday non-sense in a detached fashion, transforming unfamiliarity into a cognitive resource necessary to rationalize risky or uncertain decisions.

Insofar as they mediate between the sense and the non-sense of direct perceptions, manipulating the awareness of entire context of actions, action-oriented representations might help explain the cognitive precursors of symbolic practices. In fact, like Heideggerian signs evoke entire contexts of activities, symbolic content is not conveyed to solicit action, but to reflectively appreciate the context in which this action is possible. The non-sense manipulated by action-oriented representations probably plays a role in the origin of symbolic intelligence as it interferes with our immediate sense-making dispositions and, if symbolic experience is really based on the suspension of these dispositions, then an advanced cognitive system dedicated to the manipulation of non-sense might actually play a major role in explaining the early emergence of symbolic practices. This system would be required to create a delay between the percepts and their associated responsive dispositions by neutralizing the direct responsiveness to perceived affordances: this delay could be the precondition to establish a supplementary sense-making system that evokes inhibited actions to refer to distal, absent, or virtual contents associated to them, scaffolding the advent of the human faculty of imagination.

Or else, enaction theorists might well decide to stick to their dispositionalism and try to account for the specificity and the origin of symbolic practices without involving any kind of minimal representations. Froese (2013), for example, speculates that prehistoric rituals, such as initiation rites and other rites of passage that involve a bracketing and breakdown of habitual behavior, may have originally served as social aids for the enculturation of more symbolic modes of cognition. However, following Gallagher (2008b), Hutto (2013), and others, it is interesting to see whether this idea can be developed without appealing to subpersonal representations. Indeed, the general challenge of Varela’s enactive approach is to account for specifically human forms of detached cognition, while
resisting the temptation to fall back on representationalism (the chapter by Short, Shearing, and Welchman, in this book, deepens this point, clarifying how the enactive genesis of symbolic practices is rooted in an original coupling, rather than in a representational function). This non-representationalist account may be achieved in various ways (see review by Froese, 2012). One interesting possibility is to consider the effects of altered states of consciousness (as systematically done by González, this book). For example, the self-sustaining neural dynamics that are unleashed during certain kinds of altered states may have been involved in the prehistoric origins of more abstract cognition and imagination, because they can lead to hallucinations of geometric forms that are imbued with significance, while at the same time partially decoupling the brain from outside influences (Froese, Woodward, and Ikegami, 2013).

1.6 Other practices at the edge of non-sense: Humor and surrealist arts

Non-pathological experiences of non-sense are continuously encountered in many ordinary contexts. Because sense-making is not a deterministic process, but the dialectic outcome of uncertain negotiation between the world-environment and an autopoietic self, the uncanny manifestations of non-sense accompany life as an open possibility that is ready to be triggered at any time. Often confined to the safe terrain of pure imagination, simulation, and pretense, the revelatory advent of non-sense does not have to be psychologically disruptive. One hypothesis that this book wants to explore is that the intrusion of non-sense in the otherwise saturated horizon of our everyday sense-making practices allows the production and the fruition of particular practices like sense of humor, surrealist art, Zen meditation, informing their respective cognitive structures. A stronger hypothesis is that non-sense is involved in any kind of symbolic medium that creates critical distance from the direct affects engendered by our perceptual and motoric environment, to appreciate an imaginary world of absent, fictional, or virtual entities.

If non-sense often turns out to be just funny, rather than upsetting, this is probably because some of the same cognitive systems lie beneath both humor and non-sense. Humor is a practice that relies on the deliberate subversion of the rules of causal reasoning: it involves surprising associations generated by bizarre juxtapositions and non-sequiturs that
stimulate novel paths of thought by violating the audience’s expectations. Amusement follows when the audience is invited to reconstruct the non-evident communicative intents embedded in absurd acts, speeches, and situations, in the attempt to transcend the ordinary logic of commonsense (and there are structural reasons why the power of language to create non-sense is not less fundamental or necessary than its capability to share sense; on this point, see Cuffari’s chapter, in this book). The languages of visual art and theatrical performance have systematically explored the modalities of constitution of non-sense by intentionally engendering the subversion of the logic of ordinary communication: in painting, sculpture, and cinematography, the surrealist movement has exploited the transfigurative power of out-of-context experience conveyed by the language of symbolic representation. Symbolism in fine arts deploys the potentiality of subconscious associations without saying their meaning, but showing (in a Wittgensteinian sense) how it relates to actual life through a network of possible interpretations. In a way not too dissimilar from anxiety, artistic symbolism imaginatively exposes the ordinary assumptions about the nature and function of our habits, including the contemplative habit of artistic fruition, to investigate, criticize, or subvert them: consider Duchamp’s famous fountains, and how much reflection on the nature of the work of art this classic installation prompted by simply transferring a ordinary toilet in the middle of a contemporary art exhibition. In the Theatre of the Absurd (Samuel Beckett, Eugène Ionesco), in surrealist cinema (David Lynch) - and in many postmodern transformations of the classical actorial performance – the indefinite repetition of gestures, linguistic utterances, and banal scenes of routine life (possibly rearranged in unusual scenarios), has been used to emphasize the arbitrariness of social conventions or the nihilistic emptiness of commonsense and ordinary practices.

When non-sense is skillfully manufactured to convey a new, detached perspective on familiar customs and beliefs, the audience is invited to realize how familiar practices, in spite of their internal grammar and formal validity, can lose their overall significance. The work of art shows that their anchorage to the background of real life is artificial or irremediably unintelligible, undermining the assumed naturalness of the given, obliterating the institutional or moral aura of the tradition (cf. Camus, 1942/1989, and its interpretation by Sartre, 1943/1962). Once again, the intrinsic power of non-sense is not –
in itself – destructive, but *de*-constructive: it doesn’t deny that our practices and beliefs typically have a meaning; it shows that such meaning is a social construction, exposing as a bare fact their context-dependency and the historically situatedness of their origins. They show us our freedom to invest our lives with new practices and new meaning, as emphasized by Sartre (1946/2007).

Significantly, Sartre’s nihilistic existentialism, as a philosophical elaboration on the absurdity of life, finds its phenomenological foundation in Heidegger’s existential analysis of anxiety. It is interesting that according to Heidegger’s speculation (1927/1996, p. 216), various artistic practices, and presumably enaction theory itself (based on the necessary precariousness of sense-making), seem all to remind us that it is only in front of the prospect of dying that this freedom is truly appreciated, i.e. when we realize that our practices are temporally bounded by our finite existence, their meaning being irremediably put in perspective by the awareness of the necessity of death. In fact, Heidegger derived all authentic sense-making from facing up death, i.e. the end of all sense-making, the edge of a non-experience we can’t make sense of, and that – nonetheless - we can resolutely anticipate with our decisions and with our attempts of representation. It is no surprise, then, that in all traditional cultures the phenomenon of death is subject to the most elaborate attempts at symbolic sense-making, usually related to burial practices. For example, the beaded skull that is depicted on this book’s cover was made by the indigenous Huichol of Mexico (see the chapter by González for a more detailed discussion of the Huichol). It shows influences of the modern Day of the Dead celebration in Mexico, which itself is a syncretic mixture of pre-Columbian and Christian concerns with death.

### 1.8 The specificity of non-sense

This phenomenological analysis is of course not definitive, as other persuasive characterizations of non-sense would certainly be capable to highlight additional key aspects of the experience of non-sense (Edmund Husserl’s account of surprise, for example, suggests a detailed characterization of the temporal structure of the events in which our sense-making activity is momentarily suspended, as carefully described by Depraz in this book). The notion of non-sense based on the Heideggerian phenomenology of the uncanny
has the advantage of solving the apparent paradox that non-sense can actually be productive of sense, satisfying the enactivist view that cognition is sense-making.

However, in order to be accommodated in the general enactivist framework, a consistent cognitive theory of non-sense should also account for the fact that non-sense cannot simply refer to a failure of the basic adaptive skills of an organism, like when an animal fails to realize the relevance or the consequences of a potentially critical situation: undetected, poorly, or wrongly interpreted sense (as in misperception, or misprediction) could at best match Wittgenstein’s notion of “senseless”, not of non-sense (as uncanny). Failing to recognize an object’s use and perceiving it as unfamiliar or surprisingly absurd are two different experience that do not imply one another. On the contrary, a peculiar production of sense is constitutively implicated by the absurd, and this can only be accounted for by the idea that non-sense is a distinctive, but fundamental, possibility of the cognizer’s mental life, as opposite to a contingent a failure of its interactions with the environment. In fact, the particular cognitive breakdown that accompanies non-sense does not follow from the limits of the organism’s adaptive powers, but from the aware recognition of the occurring de-coupling between these powers and the world - which interrogates the preconditions of the familiar practices, as the normativity of the habitual adaptive patterns is explicitly put into question. Non-sense does not pass unnoticed, whether it occurs suddenly or gradually, as its nature is that of a perturbing incongruity that awakens reflective attention: we don’t experience non-sense only when we fail in a cognitive task but also when, while approaching the task in the “normal” way, applying our usual sense-making stance, its overall meaning is not manifest yet, and we have no clue of what it could be (see Beaton’s chapter in this book).

What non-sense poses is not simply a question, but a question about what question is actually at stake. It is a hyper-problem: i.e., an issue that is problematic not just because we don’t master the right know-how or tools to solve it, but primarily because the reasons of its problemacity are undecipherable under standard parameters and familiar paradigms. Two apparently conflicting phenomenological dynamics must be accounted for when we attempt to model the cognitive mechanism underlying nonsensical experience. On the one hand, when facing non-sense, we become aware that our usual sense-making processes are inadequate. Absurdity is only revealed when we are struck by the
inadequacy of our typical sense-making dispositions: we represent our situation in a way that stands before us as a problematic object of interrogation and deliberation (it frustrates our automatic interpretative habits, requesting an explicit decision). On the other hand, we are never entirely sure of the reasons or causes of this absurdity. If we knew why our familiar sense-making habits are insufficient, then we would just be in a “normal” situation of undetected or poorly interpreted sense. It is not just that sense-making dispositions fail in presence of non-sense, it is also that we don’t even know precisely which dispositions are failing and why, because our representations can never capture the full background of our pre-reflective engagement with the world (e.g., see the debate on the non-representability of the background: Dreyfus, 2007; Wheeler, 2008; Rietveld, 2012; Cappuccio and Wheeler, 2012).

Recalling Wittgenstein’s differentiation, merely “senseless” events imply the failure of adaptive cognitive process, and are puzzling because a gap between our embodied dispositions and the actions invited by the circumstances is acknowledged; on the contrary, fully nonsensical events are puzzling because such a gap – even if acknowledged - does not display a recognizable content, so that we comprehend neither what actions are demanded by the world, nor what supplement of adaptive skill or understanding would be appropriate to fill the gap. Thus, the difference between senseless and nonsensical experience is that, while in the former the boundaries between familiarity and unfamiliarity are clearly contrasted, in the latter we still experience a vague sense of acquaintance that is neither explicitly cancelled nor entirely cancellable, even if deeply mixed with unfamiliarity. This ineliminable remainder is what distinguishes non-sense from simple inaccuracy and from cognitive mistakes, as it at once motivates the expectations and their violation, alimenting the contradictory perception of absurdity. One could say that, while the senseless is experienced as the familiarity of the unfamiliar, the nonsensical forces us to face the unfamiliarity of the familiar in the specific sense that, while the former can even help us to better represent the rules that define a particular field of familiarity, the latter asks us whether a representation of the general conditions of familiarity is possible at all.

As Wittgenstein had understood, through the attempt to build such adequate representation, non-sense gestures at the insufficiency of any representation. The
functional implication of this characterization is that the deeper non-sense goes in representing the background conditions of our sense-making dispositions, the more destabilizing its effects become with respect to our familiar ways of recognizing and constituting the sense of the world, eventually disclosing the anxious possibility of a radical doubt on our intelligence’s very capability to truthfully and efficaciously make sense of the world.

1.9 Non-sense in an enactivist sense: Two foundational problems for theoretical cognitive science and some options to solve them

We must note that, even if the enactive approach to cognition is successful in providing a convincing background for the general preconditions of sense-making as such, it is still in the process of developing a complete account of those particular forms of intelligence that engage in representation (e.g., symbolic intelligence) to conceptualize contexts, switch from a context to another, and make explicit decisions about contexts and context creation. As the transition between dispositions and representations is at stake, enactivism has to convince us that no insurmountable “cognitive gap” between adaptive dispositions and higher-level representations exists (Froese and Di Paolo, 2009). In fact, when an in-principle anti-representationalist approach like enactive theory addresses such representation-involving (“higher”) forms of intelligence, it has to justify the claim that a purely dispositionalist sense-making theory is sufficient and adequate to describe them. If enactive cognition theory will not provide this justification, its foundational ambition as a new paradigm for cognitive science (Stewart, 2010) will be undermined.

The authors of the chapters collected in this book have been invited to discuss two key problems related to this crucial theoretical point. The first problem asks what processes make possible the transition from sense to non-sense (or vice versa), requesting not only to sketch a consistent differentiation between the corresponding cognitive systems, but also to account for the cognitive strategies (either based on dispositions or representations) that allow us to evade the disrupting effects of non-sense. The second problem asks what makes non-sense possible as such, accounting for those experiences in which we don’t simply perceive a routine situation as unexpectedly unfamiliar, but we are
also incapable to spell out the very reasons of this unfamiliarity. The issue of the nature and the function of representation in bridging our incomplete or failing sense-making processes becomes crucial to address both problems.

In detail, the first problem asks us to overcome an explanatory gap between primitive forms of situated sense-making (that humans plausibly share with many other animals species) and advanced – essentially symbolic - forms of cognition. The latter seem characteristic of human intelligence and are limitedly shared by the individuals of a few other species. Enactive theory provided us with a powerful model to explain how extremely different forms of cognition (encompassing both human artistic practices and the nutrition of unicellular organisms) rely, in the end, on one and the same general system of sense-making based on adaptive coupling. But is it possible to trace back the origin of both sense and non-sense to the same adaptive responsiveness to the environment, or do they have different origins? Even if we buy into the claim that the production of sense of humans and paramecia is essentially of the same kind, we find it hard to believe that the corresponding modes of sense disruption are essentially the same. We know that symbolic depictions, such as Magritte’s surrealist paintings, can convey nonsensical meanings, but we fail to understand how pre-symbolic procedures, like simple nutritional procedures of the paramecium, devoid of indirect and contentful meanings, could produce any non-sense or absurdity at all when they breakdown. The capability to manipulate uncanny experiences (such as absurd poems, weird puns, surreal depictions, etc. or pseudo-logical assertions such as “2+2 at 3 o’clock equals 4”; see for an analysis how these possibilities are embedded in languaging) seem accompanied by the capability to evoke abstract associations, absent entities, or metaphorical meanings, which – in turn – however simple they are, seem still more complex than just perceptual and interactive dispositions.

Are these abstract associations just habits of adaptive response to the environment? Is it possible to provide a scientific account of our capacity to make sense of absence through symbols, including virtual and imaginary scenarios, without recourse to the notion of subpersonal mental representations? And, if the answer to these questions is negative: is it possible to offer a non-intellectualist notion of representation that is compatible with the general dispositional and habitualist framework of sense-making theory, while proving consistent with the phenomenology of the uncanny? Whether based on representations or
not, recognizing the specificity of these symbolic processes seems indispensable to explain the very possibility of non-sense within the general enactive theory of sense-making. This leads us to the second problem.

The second problem, in fact, is even more radical. Unlike the first one, it doesn’t simply require to further articulate enaction theory to match the diversity of our cognitive tasks: the stake is the very theoretical foundation of sense-making theory. Just because enactivism defines cognition as sense-making (a unique adaptive process that is both necessary and sufficient for our mind to cognize objects of perception and intellection), the recognition of the crucial role played by non-sense in our cognitive lives confronts enaction theory with a potentially paradoxical puzzle. For, if sense-making is just the possibility of our mind to adhere to familiar situations and contexts and to dynamically adjust to them, then what adherence or adjustment could possibly make sense of the absurdity of those situations in which no adherence or adjustment seems possible? This problem doesn’t simply ask to amend or further develop the enactive framework to explain how intelligent beings happen to overcome their sporadic experiences of non-sense; it asks us to check the stability of the very foundation of the theory, to make sure that it will not crack under the weight of a contradiction that might be hidden under its surface.

The problem, in fact, requires sense-making theory to answer the following dilemma: if we assert that non-sense is experienced by making sense of the absurdity of a situation, then we lose the specificity and the radicality of the experience of sense deprivation, overlooking the phenomenology of the uncanny (if we follow this road, then it is not the actual experience of non-sense that we are trying to account for in terms of enactive sense-making). But, if we assert that non-sense is experienced by means, or in spite, of the failure of our sense-making capabilities, then we must assume that there are other forms of cognition that are not reducible to sense-making, in contrast with the fundamental claims of the enactivist theory (and, if we opt for this option, it is not the actual theory of enaction that we are trying to use in the attempt to account for the phenomenon of non-sense). In either case, it seems that the phenomenology of the uncanny and the enactive theory of cognition as sense-making are mutually exclusive, so that either we reject the validity of the former or we proceed to a deep re-consideration of the assumptions of the latter. Like many dilemmas, probably also this one can be dissolved
once its defining terms will be fully clarified. But this book testifies that, at the moment, it is unclear whether and how this goal could be ever achieved and, even though the chapters we have collected offer different insights to develop an answer, we are not sure of whether a definitive answer has yet been formulated or not.

For example, a quite expectable (but not necessarily successful) way to address our dilemma consists in explaining the detection of non-sense by means of a second-order sense-making system, i.e. sense-making processes dedicated to check the regular functioning of other sense-making processes. The aim would be to explain more sophisticated cognitive processes in term of an organism’s capability to self-monitor its own adaptive processes, predict possible consequences that do not have an immediate relevance to the survival of the organism, and dynamically update its functional configuration to fine-tune its conduct to distal or merely virtual scenarios, which can possibly be related to the internal organization of the cognitive system rather than to effective changes in the external environment.

Even if such an advancement would provide enactive theory with more powerful explanatory tools, it might not be sufficient to solve the dilemma of non-sense. The phenomenology of the uncanny does not suggest the involvement of a dedicated sense-making system having the function to detect the improper functioning of lower-order systems: in fact, a second-order sense-making system could detect and identify the failure of every specific lower-order sense-making process, without having anything to do with the fact that things became insignificant for the organism. On the contrary, the absurd suggests precisely that things do not make sense anymore, while we do not know why this is the case: an “anxious” cognitive system does not perceive its component processes not working properly (and it is possible that all of its adaptive dispositions are normally in place), but becomes aware that its coupling with the world, as a whole, does not bring about the familiar horizon of meaning anymore (the adaptive dispositions have lost their power to motivate a response to contingent circumstances). A higher order sense-making process, by making sense of the failure of lower order sense-making capabilities, could explain the purely senseless experience, but hardly the truly nonsensical one: it could indicate that a basic adaptive disposition is not working in the expected way, but we have already mentioned that reflective awareness of mistaken or poor sense-making does not
necessarily coincide with an experience of non-sense. Therefore, the claim that the system's adaptive dispositions (of a higher order) are sufficient to the recognition of non-sense is at odds with the specificity of the content of nonsensical experience, because such a system could describe what we previously dubbed “the familiarity of the unfamiliar”, a phenomenon that is radically different, if not exclusive of, the “unfamiliarity of the familiar”.

Once again, what requires explanation is not how we can live and cognize in spite of the non-sense that threatens our standard sense-making procedures; the problem is why it is the case that such threat is detected in the first place, and how life and cognition allow its very possibility (either as a paralyzing obstacle to our tasks or as a source of creative opportunities). It is not the difficulty in dealing with nonsensical situations that requires a foundational enquiry, but the paradox that, apparently, we perceive non-sense as such, and that we can do it only if we consistently make sense... of non-sense. Undoubtedly, the strategies that could be deployed to solve this problem are many and different, and the contributions collected by this book testify this variety of options within the enactive framework. In their attempts to make sense of non-sense in a reflective manner, they also reveal the bigger picture. For if we were unable to sense the presence of non-sense as such, then philosophical and scientific inquiry into that which is not-yet-sense could have never gotten started in the first place. The contributions are therefore more generally inquiring into the very conditions of possibility of inquiry.

1.9 The contents of this book

The contributions collected in this book document the relevance of this theoretical challenge in various disciplines and they try to face it in various ways. As remarked by Di Paolo in his foreword to this volume, they are ideally unified by the guiding intuition that the enactive approach to cognition can help rediscover the borders of sense and non-sense in ways that were not available to the more traditional approaches, but also that – in turn - further developments of the enactive account of human cognition requires us to recognize the defining role played by non-sense in complementing the standard forms of sense-making. This raises the question of how this role should be accommodated in the general
framework of enaction theory. Methodologically, while these contributions draw on natural scientific, literary, phenomenological, and social studies, their common denominator is an interest in explanations of the subpersonal causal mechanisms underlying sense-making.

The book is organized in three sections. The first one ("Theory and Methods") addresses the foundation of the enactive-autopoietic approach to cognition, and discusses how the theoretical problem of non-sense challenges it. The second one ("Experience and Psychopathology") deepens the phenomenological characterization of non-sense in standard and pathological experience, highlighting the specificity of the encounter with the uncanny, the absurd, and the surprising. The third one ("Language and Culture") documents some of the ways in which these events can affect our social lives, soliciting the production of original meanings within symbolic, linguistic, and other culturally informed practices.

The first contribution, by Dotov and Chemero, builds on the phenomenology of Merleau-Ponty and Heidegger to interpret some recent experimental findings on the cognitive processes underlying tool-use and their modifications in unfamiliar circumstances that frustrate the normal expectations of an expert agent. Confirming Heidegger's characterization of the un-ready-to-hand as a modality of encountering objects engendered by an event of non-sense, the authors conclude that troubled interaction with malfunctioning tools discloses a novel dimension of sense-making processes characterized by the appreciation of factual presence, in contrast to merely adaptive sense-making processes drawing on directed and pre-reflective know-how.

Non-sense is a possibility constantly threatening the cognitive life of the human cognizers, and scientists are not different from the other human beings in this respect. Their epistemological practices can be affected by destabilizing breakdowns during the processes of knowledge construction, especially when the naturalistic ontology of the Western sciences is put into question. Paradigmatically, quantum physics asks us to rethink the objectivist assumptions of naturalism and their representationalist epistemology. In this perspective, Bitbol’s contribution addresses the counterintuitive intertwining between the observer’s subjective perspective and the epistemological constructed profiles of the scientific object. Bitbol argues that the only safe way to dissolve the paradoxes suggested by this relationship, which usually are either hidden under the carpet of a
representationalist epistemology or denied as idealistic speculation, is to fully recognize
the constitutive role of the scientist as a situated agent called to make sense of the physical
events against the background of his embodied practices of knowledge.

We usually assume that non-sense is a characteristically human mode of
encountering the objects of experience, but what should we say about the non-human
animal species? Leavens addresses this question by unveiling the methodological flaws that
often prevent primatologists from appreciating the close proximity between the social
cognition of humans and apes. He reminds us that enculturation and early-exposure to
symbolic practices are key elements in the shaping of the possibilities to produce sense and
non-sense across different species. The capability to interpret indexical cues is a crucial
case study, as deictic signals like index finger bring about advanced forms of sense-making
such as joint attention and shared imagery, which require the recipients to recognize the
attentional state of the signalers to make sense of their communicative intentions. Leavens
discusses whether participatory sense-making in join attention is mediated by
representations of the others' minds or direct responsiveness to their behaviors.

The question on the nature of non-sense is relevant also to other fields of biology.
Through the pioneering work of Francisco Varela, the autopoietic theory of the living
influenced immunology and solicited the development of a new understanding of the
relationship between organism and extra-bodily world based on the idea of reciprocal
inclusion through negotiation (dynamic coupling), rather than aggressive exclusion and
territorial invasion. The recognition of the antigens and the subsequent production of
antibodies by the immune system is treated here, in accord with Varela’s suggestion that
self and other are more appropriately conceived as self and non-sense, as a dialectic
process of sense-making in which the system itself is actively informing the meanings that
it manipulates. It is a situated and embodied system that doesn't linearly produce a series
of outputs when triggered by specific inputs, but actively preserves a recurrent circle in
which the identity of the system itself is defined by its continuous interaction with the
environment. In this perspective, the main challenge is to characterize the immune-self
(the organism's perception of its own identity) in terms of a privative moment of the sense-
making process, and to explain how it is able to defend against intrusions of what is non-
self since the non-self, being outside of the immune-self sense-making process, coincides with what is non-sense.

As the phenomenology of non-sense is key to characterize the cognitive processes underlying the production of this characteristic experience, the second section of this volume is opened by Depraz’s systematic research on surprise. Heidegger and Merleau-Ponty, often mentioned in this introduction and by various authors in this collection, provided the most influential descriptions of the embodied and embedded phenomenon of the uncanny, but it is to the father of phenomenology, Edmund Husserl, that Natalie Depraz refers in her study to capture the distinctive emotional nuances of this experience, as well as its specific temporal dynamic based on the accumulation and the subsequent frustration of familiar expectations, and then again on the projection of this sudden discontinuity on the gradual developments of future experiences, in ways that are productive of novelty and wonder. As surprise typically – but not necessarily - accompanies the experience of the uncanny, the Husserlian concept of surprise turns out to be crucial to identify such an important phenomenological pattern of non-sense: Depraz characterizes the close relationship between surprise and non-sense not as elements of a hierarchic structure, but as dynamic opportunities of reciprocal enlightenment.

The world solicits our responses even if we have not made sense of it yet. But, then, how can we characterize the raw perceptual material before it has received a meaningful shape? Non-sense can affect both the objects we encounter in direct perception and the way we conceptualize them, but where does it intervene exactly in this dichotomy? An intense philosophical debate on the possibility of non-conceptual contents has tried to establish a hierarchy in the perception-concept dichotomy. Beaton addresses this issue by linking a conceptualist perspective in philosophy of mind with a non-representationalist approach to perception that has been very influential in the development of the enactive theory: the sensorimotor theory of perception by Noë and O’Regan (Noë, 2004; O’Regan and Noë, 2001), which states that both our possibilities of perception and conceptualization depend on our capability to respond to opportunities of action in the spatial environment. The direct realism proposed by Beaton builds on this approach to discuss how the not-yet-understood, that is – in his perspective – a field of potentiality of
sense that presumably has not received a consistent conceptual form yet, is nonetheless recognizable and capable to solicit characteristic opportunities of sense-making.

Phenomenology does not only describe the typical patterns of ordinary experience; it also helps us to understand the patterns of pathological and deviant experience. In fact, phenomenologically informed psychopathology investigated mental disturbances as deviant formations of sense-making. As remarked by Dibitonto in her chapter, in accord with the general approach of enactive theory, these pathologies find their origin in a breakdown or severe alteration of the typical sensorimotor coupling between subject and world, associated to a possible loss of the bodily self-awareness. Dibitonto’s chapter introduces a further articulation within the enactive approach applied to the clinical experience of the uncanny, which is instrumental to distinguishing between the prodromal and the acute forms of schizophrenic symptoms. She analyzes the rupture of the normal body-world coupling either as a fluid modification of direct perception or as a rigidification of the conceptual structures. Her conclusion is that it is only through imagination that the deviant formations of sense-making are reified as inflexible contents, generating delusions and hallucinations capable to take over perception.

Exactly like normality and pathology are categories that acquire a stable normative value only within an intersubjective practice, the worlds disclosed by language are meaningful only in a social dynamic of sense-making: the third section of this book is dedicated to these dynamics, and to their implications during non-sense production.

Cuffari develops the inquiry on the cognitive preconditions of meaning creation addressing language as a process of participatory sense-making. This investigation is key to introduce the last part of our journey because it eventually proves that the normative preconditions of languaging, the possibility of the publicity of meaning as an affordance shared in an interactive environment, are in debt with non-sense, to be understood not just as suspension or void of linguistic meaning, but as indispensable opportunity of misunderstanding and distancing that defines the operative margins of reciprocal comprehension. Every understanding implies the uncertainty of misunderstanding, not just as a general possibility implied by linguistic representations, but also as the tentative precarious process of negotiation of the idiosyncratic sense-making tendencies of the autonomous communicants.
As it is in this linguistic dimension that the ambiguities and the elusiveness of non-sense are most often disclosed, awareness of the literary practices that lead to creative sense-making, beyond the formalisms of recursive linguistic, is a crucial goal for a general cognitive theory of non-sense. Lewis Carrol’s masterpieces offer a paradigmatic case for this investigation, as few other authors developed an equally systematic economy of sense and non-sense, playing with the creation of surreal imagery suspended between rational logic and dream. Short, Shearing, and Welchman deepen the influence of this work in the philosophy of Gilles Deleuze, in dialogue with playwright and performer Antonin Artaud, translator and interpreter of Carrol’s work. They argue that, while Deleuze’s “liminal” theory of language is certainly embodied, in a way similar to how Lakoff’s is, it does not spell out the enactive dimension of linguistic meaning that Artaud will develop in a more radical way. The role of symbolic creation is discussed not just as a system of formal stand-ins, but as a relationship of originary coupling and reciprocal constitution between language and world.

Artists and playwrights know well that it is possible to play with this coupling, intentionally manipulating it to free certain desired effects. Arts and literature are not the only cultural practices capable to unleash the power of non-sense. As the phenomenon of the uncanny is revelatory of deeply transformed, and possibly radically basic cognitive processes, an investigation into the cognitive underlying of non-sense would be incomplete without an exploration of psychedelic practices, associated with altered states of mind in which non-sense is not only accidentally encountered, but intentionally produced and – to some extent – controlled through embodied expertise. González accompanies our philosophical inquiry into different ways non-sense is understood by the Huichol shamanic traditions that are based on the use of peyote, a small cactus, to ritually evoke non-sense with the purpose to unveil the coupling between mind and world by temporarily gaining an altered perspective on it.

Merritt’s investigation into gender issues concludes this section and the book by addressing another liminal dimension of sense. Gender perception affects and is affected by our cognitive systems in ways that are deeply depending on the complex reality of our intersubjective and cultural world. The category of gender is a specific form of sense-making that modulates the totality of the organic and symbolic components of our
cognitive systems, and like other cognitive systems, it can undergo breakdowns – as in cases of gender misidentification that are not just instances of misperception and vagueness of conceptualization, but turn into occasions to radically rethink personal and social identities through a disorienting experience of non-sense.

This book asks the sciences of the mind to test their own boundaries, demanding them to account for a number of cognitive and experiential phenomena that are at the edge of the very possibility to cognize. We believe that this is a foundational challenge for the enactive approach to the mind, and moreover it is a challenge that – if actually won – might offer a persuasive theoretical framework even to those who have been skeptical about enactivism’s capacity to deal with higher-level cognition so far.

References


