

Intentionality and Emotions

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Abstract

Researchers use the terms “emotion” and “intentionality” with different meanings. There are distinctions between the functional emotion state, its conscious experience, our ability to attribute emotions to others, our ability to think and talk about emotion, and the behaviors caused by an emotion state. For phenomenologists, *affective intentionality* is an *embodied* and *enactive* process that connects the person to a shared world. For Freeman all actions are emotional having at the same time their reasons, and this is the nature of intentional behavior. Gibson suggested intentionality as the one end of the *intentionality arc*, which connects us to the world, while Searle suggests “intentional causation”, as an essential connection of intentionality with consciousness. Ratcliffe proposed *existential feelings*, as kinds of background and «pre-intentional» feelings. Furthermore, Krueger proposed that focusing on *disruptions of intentionality* can deepen and enrich our understanding of core disturbances involved in different psychopathologies. I believe that *affective or emotional intentionality* is a prominent research field in neuroscience, for better understanding human behavior, emotion dysregulation, and even psychopathology.

Key-words: intentionality, emotion, feeling, intentionality arc, affective intentionality, emotional intentionality, neuroscience, phenomenology

Introduction

For William James (1894) [1], *emotions* are the result of (not the cause of) bodily changes. McDougall (1921) [2] suggested on primary and secondary emotions, proposing also that humans just like animals have instincts or propensities, which when activated cause the various *emotional qualities* to appear. Ledoux, (1995) [3] defined *primary emotions* as rapid and brief physiological reactions, as a response to stimuli, which is formed mainly in the limbic network. For phenomenologists, *affective states* are not internal states hidden away inside brains and bodies, but *embodied* and *enactive* processes that connect us to a shared world and guide our dealings with it [4]. For Heidegger (1962) [5], *moods* set up our encounter with the world by constituting our sense of belonging to it. They reveal the world as a space of practical purposes, values, goals, and activities and in this sense they are primordial phenomena presupposed by the intelligibility of our thoughts, experiences, and actions [6]. Damasio (1999) [7] has also argued that *emotions* offer a means by which the brain monitors the body's responses, both in the autonomic and the voluntary systems, in terms of "somatic markers". However, despite the affective neuroscience developments, scientists get still confused about what is meant by 'emotion', since there are distinctions between the functional emotion state ('the emotion state'), its conscious experience ('the experience of the emotion'), our ability to attribute emotions to others ('emotion perception'), our ability to think and talk about emotion ('conceptualizing emotion'), and the behaviors caused by an emotion state ('the expression of emotions', 'emotional reactions') [8, 9].

There are at least five dimensions that characterize and define emotions: *intensity*, *intentionality*, *polarity*, *duration*, and *sameness* [10]. Among them, *intentionality* seems to have the most essential connections with both consciousness [11] and evolutionary selected functions [12]. *Intentionality* is seen by Brentano (1874) [13] as "directedness" of mental phenomena, including emotions, towards an object. Husserl's (2001) [14] understanding was that all consciousness is "intentional", in the sense that it is always intended *toward* something, and is always "about" something.

Researchers use the term *intentionality* with different meanings. Among materialists, clinicians use it to denote the biological process of healing by which the body re-establishes its integrity. Psychologists use it to denote purpose, commonly conflating it with motivation. Lawyers use it to denote the planning of an action and conceive the motive as the reason for an action given by or imputed to a perpetrator, who can be convicted for intent but not for motive, as in hate crimes. Searle [11, 15] proposed the term "intentional causation" believing that there is an essential connection: "we only can understand intentionality in terms of consciousness". According Gibson (1977) [16], *intentionality* is one end of the *intentionality arc* which connects us to the world and to other people. Merleau-Ponty (1942/1963) [17] suggested that only thanks to the *intentional arc* is there a tendency towards *maximum grip*, in the sense of moving to reach an *equilibrium* in the current situation. However, how strong is the association between intentionality and emotions? How this association is related with consciousness? Which is the topography, their origin and their horizons? Which is their functional and phylogenetic involvement in human life, and even psychopathology?

Emotions

If the brain evolved as a system of information-processing relations, then emotions are, in an evolutionary sense, best understood as information-processing relations - i.e., programs - with naturally selected functions. According to Lyda Cosmides & John Tooby's (2000) [12] *evolutionary psychological theory of the emotions* : "an emotion is a superordinate program whose function is to direct the activities and interactions of the subprograms governing perception; attention; inference; learning; memory; goal choice; motivational priorities; categorization and conceptual frameworks; physiological reactions (such as heart rate, endocrine function, immune function, gamete release); reflexes; behavioral decision rules; motor systems; communication processes; energy level and effort allocation; affective coloration of events and stimuli; recalibration of probability estimates, situation assessments, values, and regulatory variables (e.g.,

self-esteem, estimations of relative formidability, relative value of alternative goal states, efficacy discount rate); and so on”.

According to Antonio Damasio (1999) [7], the so-called *proto-self*, at the deepest level of brain stratification, is the stepping-stone required for the construction of the *core self* which is based on the neural structure of *medulla oblongata*. This area reveals in what we ‘feel’ rather than in what we ‘think’, at the level of the so-called «*primordial feelings*». He notes: “I hypothesize that the first and most elementary product of the *protoself* is *primordial feelings*, which occur spontaneously and continuously when-ever one is awake. They provide a direct experience of one’s own living body, wordless, unadorned, and connected to nothing but sheer existence. These *primordial feelings* reflect the current state of the body [...] and they originate at the level of the *brain stem* rather than the cerebral cortex”. Hence, *primordial feelings* provide the ‘sense of being alive’, rising spontaneously from the organization identified as *proto-self*. These kinds of feelings proceed from automatic, unaware bodily states, providing the maintenance of vital fundamental parameters [18]. The *brain stem*, in fact, seems to possess the ‘minimum requirements’ of the definition of ‘self’. The so-called “emotional brainstem” comprised of three major networks – ascending, descending and modulatory. The ascending network is composed of the spinal projections that transmit the stimuli from the periphery, the descending motor network, with medial projections from the reticular formation that modulate the inputs impacting emotional salience and lateral projections from hypothalamus and amygdala that activate specific emotional responses. A group of specific neurotransmitter pathways (modulatory) arising from the raphe nuclei (serotonergic), ventral tegmental area (dopaminergic) and locus coeruleus (noradrenergic) form the modulatory network that coordinates interactions between the two previous networks [19].

In addition, Damasio (1999) [7] introduced the concept of *background feelings*, as discriminative states of (a) ‘basic feelings’, at a conscious level (e.g. ‘feeling tense’, ‘feeling relaxed’, etc.), emerging from the collection of the changes of the

body, conceived as *a whole*, and (b) *background emotions*, as the *unaware* level of the same ‘background feelings’, when they are outside the focus of attention, but they are already ‘there’, as *complex* collections of automatic bodily states (e.g. ‘tension’, ‘relaxation’, ‘malaise’, ‘wellness’, etc.). When we sense that a person is ‘tense’ or ‘edgy’, ‘discouraged’ or ‘enthusiastic’, ‘down’ or ‘cheerful’, we are detecting *background emotions*: He said: “Prominent background feelings include: fatigue; energy; excitement; wellness; sickness; tension; relaxation; surging; dragging; stability; balance; imbalance; harmony; discord. The relation between background feelings and moods is intimate: drives express themselves directly in back-ground emotions and we eventually become aware of their existence by means of background feelings”. *Background feelings* are just aware background emotions; When ‘background’ emotions come into the ‘foreground’, they are *perceived* and become background ‘feelings’ [7, 18]. Finally, Damasio [7] distinguishes three levels of emotional processes, according to their degree of complexity and evolutionary heritage: (a) the so-called “background emotions” – complex collections of bodily changes, basic homeostatic processes, pain and pleasure behaviours; (b) “primary” or (supposed) universal “emotions” – joy, sorrow, fear, anger, disgust, surprise; and, (c) eventually, “secondary” or *social* “emotions”: compassion, shame, guilt, pride, jealousy, envy, gratitude, admiration, contempt, etc.

Matthew Ratcliffe (2005) [20] proposed the term ‘feeling’ instead of ‘mood’ or ‘affect’, given that we do refer to ways of finding ourselves in the world as ‘feelings’: He said: “The term ‘emotion’ might invoke the usual list of states, such as anger, fear, happiness, sadness, shame, guilt, regret and so forth. And ‘mood’ might make one think of misery, elation, boredom or just of ‘good’ and ‘bad’ moods. But ‘belonging’, ‘familiarity’, ‘completeness’, ‘estrangement’, ‘distance’, ‘separation’ and ‘homeliness’ are usually referred to as feelings”. In his paper “Feeling of Being” Ratcliffe (2005) [20] noticed that “everyday talk of ‘feeling’ is not restricted to emotional feeling and the current emphasis on emotions has led to a neglect of other kinds of feeling. These include feelings of homeliness, belonging, separation, unfamiliarity, power,

control, being part of something, being at one with nature and 'being there' [...] all of them are ways of 'finding ourselves in the world'. Indeed, our sense that there is a world and that we are 'in it' is, I suggest, constituted by feeling. I offer an analysis of what such 'existential feelings' consist of, showing how they can be both 'feelings' and, at the same time, part of the structure of intentionality".

For Peter Goldie (2002) [21] there are two types of emotional feelings. (a) *bodily feelings*, characterized by consciousness awareness of bodily changes that occur during emotions (muscle activity, autonomic nervous system responses, and hormonal changes). (b) "*feeling-towards*", characterized by an unreflective emotional engagement with the world beyond the body. The "*unreflective*" need not presuppose a capacity for reflective self-awareness. Specifically, one can unreflectively feel an emotion without being reflectively aware *that one is* feeling an emotion. The same goes for visual perception. *Feelings towards*, have an intentional object outside the body, whereas *bodily feelings* have intentional objects within the body.

Goldie (2002) [21] introduced the term "borrowed intentionality." Some emotionally relevant bodily feelings are not consciously apprehended as "pure" *bodily feelings*. They are not merely experiences *about* one's body, but rather exhibit "borrowed intentionality. Goldie provides as an example the *bodily feelings* of a 'grief-pang', contrasted with a 'mere-pang' in the chest, absent the emotion of grief. The grief-pang, he writes, "is for the one who is being grieved over; although it is undoubtedly a feeling of something bodily, and can be pointed to as being in the breastbone, [being directed toward the loss is] what makes it a pang of *grief*, rather than any old pang". As a *grief-pang* – a *bodily feeling* specifically associated with the emotion of grief – it *borrow*s the intentional object of grief, and is consciously apprehended as a *bodily-feeling-towards* the loss. But, is it a feeling *of* the body, or a feeling *toward* the loss? Benjamin Sheredos (2009) [22] suggested that "we can have it both ways, but not at once: A conscious experience of a single, current bodily state can be consciously apprehended as being directed at the body at one moment, and can be apprehended as being directed

at the world the next. When the latter occurs, we experience states of our bodies *as* properties of the environment". For Sheredos: "Our *bodily feelings* become a phenomenological lens, through which we experience an object in the world *as* emotionally salient. When involved in an emotional *feeling towards*, *bodily feelings* don't just borrow intentionality, *they loan out phenomenology*. The phocal point is *out there*, with the loss, not in your innervated body. It is the *loss* that is *felt as grievous*, via the pang in one's chest".

Intentionality

The Aristotelian philosophy of Descartes' days held that the universe was inherently purposeful or teleological. Spinoza asserts that every individual thing strives to persevere in its existence. He calls such striving *conatus* (a Latin term meaning *will* or *appetite*), and he argues that this *conatus* "is nothing but the actual essence of the thing". Immanuel Kant used the term "self-organizing" in his 1790 *Critique of Judgment*, where he argued that teleology is a meaningful concept only if there exists such an entity whose parts or "organs" are simultaneously ends and means. For Brentano (1874) [13] "intentionality is characteristic exclusively of mental phenomena. No physical phenomenon exhibits anything like it. Mental phenomena contain an object intentionally within themselves [...] Every mental phenomenon includes something as an object within itself, although they do not all do so in the same way. In presentation something is presented, in judgment something is affirmed or denied, in love loved, in hate hated, in desire desired, and so on". Intentionality comes from the Latin verb *intendo* meaning *to aim, hold out, or stretch*. According to Walter Freeman (1999) [23], "*intent* comprises the endogenous initiation, construction, and direction of behavior into the world, combined with changing the self by learning in accordance with the perceived consequences of the behavior". While *consciousness* is the ability to be about things, *intentionality* is seen as "directedness" of mental phenomena towards an object. Daniel Dennett (1987) [24] proposes that the *intentional stance* is so powerful that it can be developed into a valid intentional theory.

Determinism is the philosophical belief that all events are determined completely by previously existing causes. Deterministic theories throughout the history of philosophy have sprung from diverse and sometimes overlapping motives and considerations. For John Searle (1983) [11], “*intentionality* is that property of many mental states and events by which they are directed at or about or of objects and states of affairs in the world. Beliefs, fears, hopes, and desires are Intentional; but there are forms of nervousness, elation, and undirected anxiety that are not Intentional [...] My beliefs and desires must always be *about* something. But my nervousness and undirected anxiety need not in that way be *about* anything”. Searle claims *intentional causation* is intrinsic to the innate or logical structure of perception and action. He gives many examples of states that can be *intentional states*: «belief, fear, hope, desire, love, hate, aversion, liking, disliking, doubting, wondering whether, joy, elation, depression, anxiety, pride, remorse, sorrow, grief, guilt, rejoicing, irritation, puzzlement, acceptance, forgiveness, hostility, affection, expectation, anger, admiration, contempt, respect, indignation, intention, wishing, wanting, imagining, fantasy, shame, lust, disgust, animosity, terror, pleasure, abhorrence, aspiration, amusement, and disappointment”.

According to Searle’s *theory of intentionality*, the *direction of fit* of an intentional action is *world-to-mind*, while the *direction of causation* is *mind-to-world* (i.e., the experience causes the movements). Additionally, he defines *perception* as an intentional and *causal transaction* between mind and the world, where the *direction of fit* is *mind-to-world*, and the *direction of causation* is *words-to-mind*. He is opening the problem of *intentionality of perception* using the expression of *experience of*. As he realizes the “*of*” of “*experience of*” is in short the “*of*” of *Intentionality*. He also suggested that there is a distinction between *prior intentions* and *intentions in action*, where *prior intention* causes the *intention in action* which causes the *movement* (transitivity of Intentional causation). Thus, Searle maintains that in action and perception we experience the causal relation itself. However, David Thompson (1986) [25] rejects this argument: “While Searle explicitly rejects the Kantian theory that causality is

an a priori concept, his own position is closer to it than he seems ready to admit [...] I submit that Searle’s *theory of intentional causation* has failed to bridge the transcendentalist’s gap between intentionality and natural causality, which he claims was the main object of his strategy”.

There are three dimensions of intentionality: *mental intentionality*, *motor intentionality*, and *affective intentionality* [26]. (a). For *mental-cognitive intentionality*, Husserl (2001) [14] suggested that the structure of intentionality can be analyzed into two components: the object as intended by consciousness (“noema”) (i.e. what is given to consciousness), and the conscious act that intends the object (“noesis”). Thus, the correlation between *noesis* and *noema* becomes the first step in the constitution of analyses of consciousness. Husserl noticed: “intentionality wants to go to the object itself [...] that is, to an intuition that gives the object itself, to an intuition that is in itself the consciousness of having the object itself [...] “This directedness is [...] a striving, it is from the very beginning ‘driving at’ a satisfaction”. (b). For *motor / corporeal intentionality*, Maurice Merleau-Ponty [17] developed the concept of intentionality to include what we would now describe as *embodiment*. *Motor intentionality* is pervasive throughout everyday life. He said: “these elucidations enable us clearly to understand motility as basic intentionality. Consciousness is in the first place not a matter of ‘I think that’ but of ‘I can’ [...] This is a “deeper” intentionality “beneath the intentionality of representation” [27]. (c). For *affective intentionality*, phenomenologists proposed that it is an *embodied* and *enactive* process that connect us to a shared world and guide our dealings with it [4]. For Heidegger (1962) [5], *moods* set up our encounter with the world by constituting our sense of belonging to it. They reveal the world as a space of practical purposes, values, goals, and activities—a space of meaning—and in this sense they are primordial phenomena presupposed by the intelligibility of our thoughts, experiences, and actions [6]. Recently, Matthew Ratcliffe (2019) [28] pointed on the disagreement concerning the nature of *emotional intentionality* and he presented ways that could distinguish emotional intentionality from other forms of intentionality.

The intentionality of emotions

I suggest a continuous, phylogenetically based reciprocal interplay between emotionality and intentionality. The *cognitive theory of emotions* by Oatley and Johnson-Laird (1987) [29] argues that the main function of *emotions* is to coordinate the architecture of the brain modules and that the emotions enhance adaptation to the continuous environmental challenges and opportunities presented throughout the evolution of the species. *Feelings* are an essential part of the way we are intentionally open and responsive to our world [26]. Phenomenologists argue that we don't just think thoughts or perceive things. We feel feelings. And these feelings— affective phenomena like emotions, moods, and bodily states—play an important role in shaping how the world and other people show up for us, experientially [30]. For Michel Henry (1973) [31], the revelation of the absolute resides in affectivity and is constituted by it: "The particular content of a particular feeling identifies itself with it, determining it now as "hate," again as "love," as "happiness," "sadness," or "despair"". Emotions are portrayed as dynamic processes that mediate the individual's relation to a continually changing social environment [32]. Animal evidence, for example, suggests that *collective emotional behaviour* may help group members negotiate group-related problems [33]. Many research areas support this concept, such as linguistic formations like *emotion lexicons* or *metaphors* and meaning-laden cultural products, such as *etiquette manuals* or *cultural myths* and *legends* (Keltner & Haidt, 1999). According *ritual theories*, rituals generate group emotions that are linked to symbols, forming the basis for beliefs, thinking, morality, and culture [34].

Maurice Merleau-Ponty [17] noticed that each object is a "mirror of all others". George Lakoff (1999) [35] argues that *all* cognition is based on knowledge that comes from the body and that other domains are mapped onto our embodied knowledge using a combination of conceptual *metaphor*, *image schema* and *prototypes*. John Searle (1990, 1995, 1997) [15,36,37] assumes that in addition to intentionality of the form «I intend» there is another kind of intentionality of the form «we intend» which does not exclude the former.

Searle (1990) [36] says: "Just take the collective intentionality in my head as a primitive. It is of the form "we intend" even though it is in my individual head. And if in fact I am succeeding in cooperating with you, then what is in your head will also be of the form "we intend". Whenever you have people cooperating, you have *collective intentionality* [...] I want to say, this is the foundation of all social activities". He also adds: "... the capacity to engage in collective behavior requires something like a *pre-intentional sense* of "the other" as an actual or potential agent like oneself in cooperative activities [...] *collective intentionality* seems to presuppose some level of sense of community before it can ever function".

Furthermore, Searle [37] believes that *collective intentionality* is a biologically primitive phenomenon that we humans share with other social animals. He argues that not *collective intentionality* itself, but the underlying capacity for collective intentionality is biologically innate. "The selectional advantage of cooperative behavior is obvious. Inclusive fitness is increased by cooperating with conspecifics". Thus, he seems to hold that underlying *collective intentionality* there is a capacity that is innate, rather than culturally acquired, and that has been selected in processes of biological evolution. Without *collective intentionality* there could not have been *social reality* and without a *pre-intentional sense of community* there could not have been *collective intentionality*. Taken together this implies that *social reality* would not have been possible without a *pre-intentional sense of community* [38].

The emotionality of intention

Walter Freeman (1999) [23] said: "All actions are emotional, and at the same time they have their reasons and explanations. This is the nature of intentional behavior". Also, Searle [11] sees our mind as a part of nature and intentionality, saying : "From an evolutionary point of view, just as there is an order of priority in the development of other biological processes, so there is an order of priority in the development of intentional phenomena. In this development, language and meaning, at least in the sense in which humans have language and meaning, comes very late". Searle also

believes that not all conscious states are intentional, and not all intentional states are conscious. He realizes that a conscious state, such as an intention or a desire, functions by representing the sort of event that it is caused by. This kind of mental causation is called “*intentional causation*”.

Furthermore, Matthew Ratcliffe (2005) [20] defines *existential feelings* (as kinds of background feelings) as «*pre-intentional*» (rather than intentional themselves), i.e. as conditions of possibility of other intentional states: “We can still consider *existential feelings* intentional at least in the sense that they are always related to the world, that we experience as a whole. They make a considerable contribution to the structure of experience, thought and action, giving the examples of feeling ‘complete’, ‘flawed and diminished’, ‘unworthy’, ‘humble’, ‘separate and in limitation’, ‘at home’, ‘a fraud’, ‘slightly lost’, ‘overwhelmed’, ‘abandoned’, ‘stared at’, ‘torn’, ‘disconnected from the world’, ‘invulnerable’, ‘unloved’, ‘watched’, ‘empty’, ‘in control’, ‘powerful’, ‘completely helpless’, ‘part of the real world again’, ‘trapped and weighed down’, ‘part of a larger machine’, ‘at one with life’, ‘at one with nature’, ‘there’, ‘familiar’, ‘real’”. He concluded in the following: (a) bodily feelings which are part of the structure of intentionality contributing to how one’s body and / or aspects of the world are experienced. (b) there is a distinction between the location of a feeling and what that feeling is of, a feeling can be in the body but of something outside the body. (c) we are not always aware of the body, a bodily feeling need not be an object of consciousness. (d) feelings are often that through which one is conscious of something else [20].

For Tetsuro Watsuji (1996) [39], *intentional objects* are embedded in shared contexts that specify their salience and significance. According to Watsuji: “The consciousness we possess in our daily lives is never a collection of sensations”. To be a human being is not just to *exist in time* (Heidegger), but also in and through multiple dimensions and intensities of space. He introduced the term “*betweenness*”, which can take many forms, like the bodily intimacy of newborn-caregiver interactions, the sexual intercourse, and more encompassing forms of betweenness like emotional contagion within large groups. As Krueger (2019) [40] noticed:

“The important point here for Watsuji is that the form these tools take the “how” by which they manifest as meaning-saturated intentional objects is not the product of an individual consciousness but rather exhibits a meaning common to all those who are concerned with this tool. Things reflect the sociocultural *betweenness* in which they are situated. This *betweenness* regulates how things and spaces show up for consciousness as meaningful (intentional) objects of experience”.

Affective scientists typically focus on relatively narrow and bounded phenomena such as *emotional episodes* and *moods*. For Colombetti (2014) [30], the phenomenological notion of *affectivity* refers instead to our basic capacity to be “affected”, in the sense of influenced by something that matters to us. She tells us: “In this sense, one need not be in an emotion or mood to be in an affective state. Affectivity is a very broad phenomenon that refers to our basic, indeed inescapable, condition of caring about our existence and activities. This broad notion is also “deeper” than ordinary emotions and moods, in the sense that it is a condition of possibility for those. If we were non-affective, i.e., indifferent beings, we would not be moved by anything, and accordingly we would not have emotions and moods”.

Failures of intentionality

Derek Bolton (2008) [41] has considered whether mental disorders might be specified by a class of “radical failures” of intentionality, exhibited in the patient’s mental life. He noticed: “The mind is in good working order to the extent that its intentional objects and connections are appropriate [...] *failure of intentionality*, whether inappropriateness of an intentional object or connection, or absence of an intentional object altogether, suggests disorder”. For example, patients suffering from Capgras and Cotard delusions lose conscious access to normal intentional objects of affective experience, explaining the delusion in the *absence* of an intentional object. These patients have not lost mental states whose intentional objects are familiar people, or themselves, reporting that *their alleged spouse* feels unfamiliar, or that *their body* is

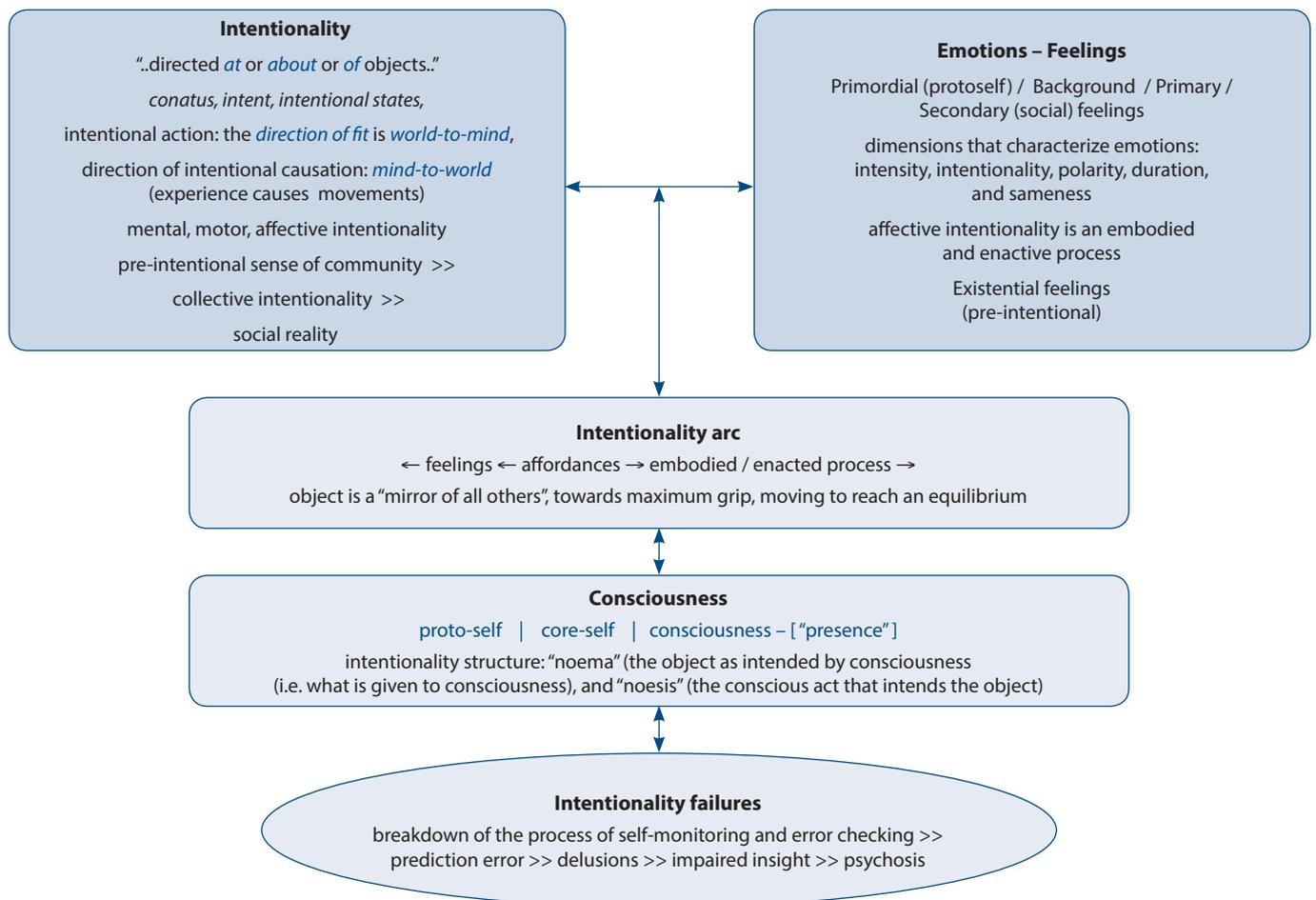
not real, respectively. It is *only* the patient's *affective experience* that is restricted to a subset (or, null-set) of appropriate intentional objects. The *intentional connections* between delusions and behavior *are appropriate*, given their experiences.

Focusing on *disruptions of intentionality* can deepen and enrich our understanding of core disturbances involved in different psychopathologies [26]. For Husserl (1991) [42], the temporal microstructure of consciousness—as intentional—consists of a dynamic self-organizing process comprised of both a retention of what I have just seen, heard, or thought, as well as an anticipatory protention of what I expect to continue seeing, hearing, or thinking. This temporal synthesis (“inner time consciousness”) is a tacit background

process organizing our experiences into sequences of coherent units. For Thomas Fuchs (2007) [43], this temporal microstructure of intentional consciousness can become fragmented in psychotic patients.

Neuroscience suggest that some prediction aspects are impaired in psychotics. These patients manifest confusion at the initiation of the actions, and hence passivity experiences in the case of willed motor actions, and auditory hallucinations in the case of willed cognitions. Neuroimaging have linked *processing speed* to brain anatomical connectivity and have pointed its role among the predictors of clinical changes in psychosis [44]. For example, the dysmyelination-induced delays in patients with psychosis may cause a

Fig 1. Emotion-intentionality interaction, and resulting intentionality failures



discrepancy in sensory feedback mechanisms, resulting in *prediction error*, and phenomenological and neurophysiological *salient event* [45]. In addition, a variety of phenomena might be considered as reflecting impaired *insight* in psychosis, like failure to recognize signs, symptoms or disease, failure to derive appropriate cognitive representations, despite recognition of the disease, and misattribution of the source or cause of the disease. The theoretical approaches regarding *impaired insight* include: (a) a disturbed perceptual input, (b) an impaired linkage between thought and emotion and (c) a breakdown of the process of self-monitoring and error checking. The inability to distinguish between internally and externally generated mental events has been described by the *meta-representation theory*, which indicates: (a) the awareness of ones' goals, which leads to disorders of willed action, (b) the awareness of *own's intention*, which leads to movement disorders, and (c) the awareness of *intentions of others*, which leads to paranoid delusions. I suggest that *poor insight* is derived from *failure intentionality* and constitute a core factor into the psychosis process. Poor insight also, could arise as a common mechanism for many other mental disorders or even it would be an independent and *trans-diagnostic* factor into the human personality, probably like the dimension of *psychotism* [46]. Fig 1 illustrate the actors implicated in emotion-intentionality- interaction, and resulting intentionality failures.

In conclusion, *intentionality* seems to have essential connections with both consciousness and evolutionary selected functions, comprising the endogenous initiation, construction, and direction of behavior into the world. Moreover, *affective intentionality* is an *embodied* and *enactive* process that connect us to a shared world and guide our dealings with it. A *what-matters* model, according to Charles Turner (2017) [47], would be useful, employing a combination of the principles of intentionality and causality. Having in mind the rich philosophical and neuroscientific research, we can suggest that the field of *emotional intentionality* is a prominent neuroscience area, helping to better understanding of consciousness, emotions, emotion-cognition interplay, emotion (dys)regulation, human behavior, and even psychopathology.

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