

Background Emotions, Proximity and Distributed Emotion Regulation

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Published online: 13 March 2013
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Abstract In this paper, we draw on developmental findings to provide a nuanced understanding of background emotions, particularly those in depression. We demonstrate how they reflect our basic *proximity* (feeling of interpersonal connectedness) to others and defend both a *phenomenological* and a *functional* claim. First, we substantiate a conjecture by Fonagy & Target (International Journal of Psychoanalysis 88(4):917–937, 2007) that an important phenomenological aspect of depression is the experiential recreation of the infantile loss of proximity to significant others. Second, we argue that proximity has a particular cognitive function that allows individuals to morph into a cohesive dyadic system able to carry out *distributed emotion regulation*. We show that elevated levels of psychological suffering connected to depressive background emotions may be explained not only in terms of a psychological loss, but also as the felt inability to enter into dyadic regulatory relations with others—an experiential constraint that decreases the individual’s ability to adapt to demanding situations.

1 Introduction

Following Damasio (2003), we can differentiate three groups of emotions: *primary emotions* refer to rudimentary Darwinian emotions (anger, disgust, joy, fear, etc.) that are universal across cultures. *Social emotions* (empathy, shame, envy, etc.) are emotions that emerge within interpersonal relationships and thus essentially involve others. The third and least researched group consists of so-called *background emotions*: low-grade, inconspicuous affective states that constitute the tacit backdrop of experience and subtly organize thought and behaviour. Roughly, one may say that

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these emotions provide an affective background orientation for our various engagements with the world. In so doing, they establish a space of salient action possibilities (Ratcliffe 2008). In addition, background feelings not only structure the pool of meaningful possibilities for deliberation and shape our practical comportment within the world, generally speaking. They also enable the proper functioning of various cognitive and deliberative skills (Damasio 1999, 2003).

In light of these functions, it seems convincing to say that background emotions need to be part of any taxonomy of emotional experience. Indeed, a close investigation of background emotions and the kinds of experiential spaces they create has proved helpful in exploring depressive experiences. For instance, Ratcliffe (2008; 2009; 2010) has provided a phenomenological analysis of depressive background emotions. In these experiences, according to Ratcliffe, one feels cut off from the world in that the depressive individual feels their possibilities for action severely constrained—and thus these possibilities do not include the opportunity for particular categories of practical and affective connectedness. Additionally—and crucially for our discussion—depressive individuals also feel that the pathologically altered affective state is absolutely resistant to change.

In this paper, we wish to contribute to a more nuanced understanding of background emotions, particularly those in depression. To achieve this goal, we shall draw on developmental findings about the ontogenesis of background emotions and provide a very different perspective on them than is currently found in the existent literature. While background emotions are usually explored from an individualistic point of view, we shall instead highlight their irreducibly interpersonal and co-created nature; this emphasis will in turn allow us to demonstrate how they are connected to dyadically distributed cognitive processes that span multiple agents. More precisely, we will argue that background emotions reflect our basic *proximity* to others, that is, our fundamental feeling of interpersonal connectedness. Pathologically altered background emotions in depression thus reflect a sense of lost proximity. Further, we defend both a *phenomenological* and a *functional* claim in our characterization of background emotions. As to the phenomenological claim, we substantiate a conjecture by Fonagy and Target (2007, 921) that an important phenomenological aspect of depression is the experiential ‘recreation’ of the infantile loss of proximity to significant others. In this context, the term ‘recreation’ should be understood as referring to a structural similarity, and not identity. As to the functional claim, we argue that proximity has a particular cognitive function that allows individuals to morph into a cohesive dyadic system able to carry out *distributed emotion regulation*. Put otherwise, we argue that elevated levels of psychological suffering connected to depressive background emotions (i.e., those that feel utterly resistant to change) may be explained not only in terms of a psychological loss, but also as the felt inability to enter into dyadic regulatory relations with others—an experiential constraint that decreases the individual’s ability to adapt to demanding situations.

The paper proceeds as follows. After a short presentation, we argue (1) that the core feature of depressive background emotions is the lack of a certain proximity to other persons, which manifests itself in the appearance of objects lacking interactive possibilities, altered temporal structure, and the felt non-contingency of experience. Then, we (2) consider proximity in developmental-ontogenetic terms. We explain how background emotions arise in early dyadic parent–infant affective coordination

characterized by the core feature of *synchrony*. We also (3) show that these synchronic interactions have a genuine cognitive function—they enhance the infant’s native biological capacities in particular ways—and thus count as *dyadically distributed cognitive processes*, since the emotion regulation of the child is achieved only within the larger dyadic system. Next, we (4) highlight how depressive-like background emotions arise from interactions (for instance with depressed mothers) in which there is little hope for synchrony, reparation, and dyadically distributed emotion regulation. This enables us to (5) show that similar processes of dyadic synchronization and distributed emotion regulation also occur in certain adult relationships. Specifically, we argue that the felt unavailability of others as potential external co-regulators may partly explain elevated levels of psychological suffering and the sense of the current condition being resistant to change.

2 Introduction: Background Emotions

Within the last decade, there has been an increasing awareness that many theories of emotional experience are too narrow in their scope. For instance, Lambie and Marcel (2002) take into account phenomenological aspects of emotional experience like ownership, agency and spatiality of emotion experience. Other researchers have focused on the different ‘levels’ on which emotions are experienced. Damasio presents neural and physiological evidence that we experience low-grade background emotions (Damasio 2003; Damasio 1999: 341; Lane and Nadel 2000). According to Damasio, background emotions comprise our general “state of being” in the world (Damasio 2003: 44), the minimal throb and pulse that is “the feeling of life itself” (Damasio 1994: 150). They are a composite expression of various “bioregulatory reactions” (basic homeostatic and metabolic processes, pain and pleasure behaviours, reflexes, etc.) that collectively govern thought and action (Damasio 2003: 44). Construed thusly, background emotions for Damasio index momentary parameters of the organism’s inner bodily state (Damasio 1999: 286). Accordingly, they are internal bodily phenomena: an “image of the body landscape when it is not shaken by some [more explicit primary or social] emotion” (Damasio 1994: 150–151).

Both Damasio and Ratcliffe thus convincingly argue that, along with primary and social emotions, background emotions need to be part of any taxonomy of emotional experience. But Ratcliffe’s analysis differs from Damasio in that he stresses the fundamentally *world-directed* nature of background emotions or what he terms “existential feelings” (Ratcliffe 2010: 131). Like Damasio, Ratcliffe argues that background emotions (i.e., existential feelings) amount to different ways of being in the world—hence their “existential” character. Yet, rather than focusing exclusively on their intracorporeal nature—as Ratcliffe notes, Damasio’s internally-oriented characterization makes it difficult to see how background emotions give us much information about being in the *world*—Ratcliffe is instead concerned with elucidating how such feelings serve as “structures of relatedness between self and world” (Ratcliffe 2008: 179).

Drawing on the phenomenological tradition, and particularly on Heidegger’s (1962) famous analysis of life-world structures, Ratcliffe (2005, 2008, 2009) sees our perceptual experience of the world as structured by our sense of the salient

possibilities that the world offers. It is a crucial part of our experience of objects and fellow human beings that we see them as more or less inviting, as accessible, dangerous, present-to-hand, and so on. This view – which has also inspired recent ‘enactivist’ accounts of perception (Noë 2004), for example – thus maintains that we primarily experience the world as a space of action possibilities. Background emotions play a major role in presenting the world to us in such a fashion (Slaby and Stephan 2008). However, their role is not to determine the practical significance of certain objects or persons, but rather to affect the space of possibilities *as a whole*. A background emotion creates a space of possibilities in which the presence of particular possibilities is unambiguous and heightened, while others are experienced as repressed, diminished, or they are simply non-existent. It is in this manner, then, that background emotions provide an affective background orientation that frames a felt space of salient action possibilities (Ratcliffe 2008).

Despite their different characterizations of background emotions, both Damasio (2004) and Ratcliffe (2008) agree that background feelings are not just add-ons to cognition, contributing some emotional colour to objects that are already present through cognition, but that they play a deeper role: namely, they shape the content of cognition and prefigure our experience of the world more generally. While Damasio opts for a view in which the body is represented in the brain, Ratcliffe takes seriously the idea that the body is not merely an *object* of experience, but that it also has a decisive role in structuring experience. For Ratcliffe, background emotions are both essentially bodily feelings as well as part of the structure of intentionality (Ratcliffe 2005, 2008). In other words, they contribute both to how we experience our body (its internal state, agential possibilities, etc.) as well as how we experience various aspects of the world we bodily engage with. The experiential action possibilities that make up our world-horizons are not only perceived visually, but above all felt as bodily potentialities. Put differently, the space of possibilities for experience is constituted by bodily potentialities. Taking this into consideration, we can think of how the body feels towards the world and how the world is experienced not as two different things, but rather as two inextricable aspects of the same experiential structure (Drummond 2004, 115; Ratcliffe 2005, 49; Ratcliffe 2010; Sartre 2008, 35). The way in which the body feels *is* simultaneously the situation in which one finds oneself in the world—or in other words, the way the inhabited space of possibilities allows for orientation. An altered feeling in the body is thus simultaneously also a change in the space of possibility that shapes experience (Ratcliffe 2010).¹

In sum, background feelings play a central role in shaping the space of possibility that we experientially inhabit. Moreover, they are simultaneously bodily feelings as well as feelings toward the world, and are thus inextricable aspects of the same experiential structure.

2.1 Depressive Background Emotions and the Loss of Proximity

Some background emotions are altered in ways that cause psychological suffering. For instance, an individual suffering from severe depression experiences particularly

¹ Some additional sustaining evidence can be found in the work of Lakoff and Johnson (1999; also Johnson 1987) who suggest that emotional experiences are usually expressed by employing bodily and spatial metaphors.

low and negatively biased background emotions. These individuals then typically experience the world as a whole as somehow constricted—that is, drained of vitality and as a space of eroded experiential possibilities (Ratcliffe 2010: 130; Ratcliffe 2008)—even though the depressive background emotions *themselves* are not the thematic focus or content of their experience but rather an implicit frame through which the (constricted) world is experientially manifest.

There are two characteristics of background emotions in depression that are represented in the majority of both clinical and autobiographical descriptions. They are experienced as (1) *non-contingent* and (2) *solipsistic*, that is, as not amenable to change and as somehow disconnected or cut off from others. While these characteristics have been kept separate in the literature, in the following we want to argue that there is an inherent connection between them.

- (1) A characteristic aspect of depressively altered background emotions is that the suffering individual experiences them as non-contingent, locked, and rigid, which leads to a sense of despair (Binswanger 1960). The depressive becomes captured in an inescapable reality that cannot be transcended towards the possibility of change (Kraus 1977, 82). Patients report the loss of the ability to conceive of a possible alternative to where one currently finds oneself in the world—and thus no avenues for recovery are experienced as available (Wyllie 2005; Ratcliffe 2009; Solomon 2001). Drawing on Steinbock (2007), we may say that such an experience of despair is deeper than any form of pervasive ‘doom and gloom’ pessimism. It is not just that the patient thinks that all things will no matter what have a dreadful outcome. More dramatically, the very ground of hope *itself* is experienced as impossible: “there is the experience of no recourse, no sustainability; every avenue is closed off” (Steinbock 2007, 449). This feature of despair thus also distinguishes the depressive experience from the experience of hopelessness. While hopelessness impacts the ground of hope connected to a certain *event*—I may lose hope, say, that my partner will recover from terminal cancer, while nevertheless maintaining hope that other events in my life will have a more favourable outcome—despair, to reiterate, is again marked by an experience of the very ground of hope itself as impossible (Steinbock 2007, 447).

This global loss of the very possibility of hope is thus experienced as something that cannot be changed. Under normal circumstances, background emotions—however negatively or positively valenced they may be—incorporate a sense of their own contingent and transitory nature. In other words, they are felt as temporary, eventually open for change and being able to be affected by input, which results in the experience having a certain temporal structure. However, background emotions in depression have a radically different temporal structure in which one feels fixed or locked within the present non-transitory state. Both the past and the future are seen as unable to offer anything relevant to the present experience; they are unable to redeem the lack of present possibilities. Instead of being constituted by a certain contingent openness, the future is, for the depressive, rather experienced as fixed, bereft of significance and lacking possibilities for meaningful change and action.

- (2) The loss of the ability to meaningfully connect with other people—the experience of being cut off from humanity as a whole—is another feature present in

both clinical and autobiographical accounts of severe depression. From a phenomenological point of view, Steinbock (2007) connects the experience of being fixed within the future-less, non-contingent now of depression to the intersubjective experience of being abandoned: “This absolute distance from the ground of hope is the experience of being abandoned, being alone, and being left to myself in the present” (449). The same connection to intersubjectivity is made by Fuchs (2005), who connects the felt sense of being locked into the present with a de-synchronization from the social rhythm of interpersonal time. But we also find this link in patient reports. For instance, Karp (1996, 14) notes how the interpersonal affective relatedness that lies at the ground of interaction—a felt connection to others, which includes the possibility of joint actions and shared projects that may eventually ease the sense of non-contingency for the depressive—seems equally unattainable:

“Much of depression’s pain arises out of the recognition that what might make me feel better – human connection – seems impossible in the midst of a paralyzing episode of depression” (Karp 1996, 14; quoted in Ratcliffe 2010)

For the depressive, other people appear as little more than offering the possibility of an even more acute experience of isolation, a further affirmation of the non-contingency of their current predicament. This is why social withdrawal is often preferred to avoid additional affective exacerbation that a social event may cause (Werner and Gross 2009). On the other hand, there is also a tendency to adopt a ‘hypernormality’ in terms of clothing and style, an exaggerated attempt to maintain the pretence of normality in the face of the overwhelming depressive experience (Kraus 1977, 24; Stanghellini 2000, 286).

In addition, such a link between the global experience of non-contingency and that of being cut off from the social world is also defensible on independent grounds. It makes sense to say that what makes up the contingency of experience is the tacit knowledge that one is emotionally responsive to others. Put otherwise, this felt proximity to others means that one has the sense of being able to be affected by others in ways that change the ways in which one experiences the world (Henrich 2007, 148).² The contingency and openness of the future in this way also depends on a sense of the manifold possible ways in which others can experience the world, and on the possibility of my being affected by their possible experiences—some of which we share. A sense of being able to be affected by others thus also shapes our *own* experiences and plays a role in shaping own experience of existential possibilities. Being cut off from others thus amounts to being cut off from a meaningfully unfolding future and instead being delivered to the past.

The experience of losing proximity to others resonates at the bodily level. For example, it is well known that the body in depression tends to slow down, becoming thing-like and standing out as uncanny or conspicuous (Tellenbach 1961, 295; Stanghellini 2004; Fuchs 2005). However, taking into account the embodied nature of background emotions, this is not surprising. For if no affordances and action

² “Die Möglichkeit anderer Wege der Erschliessung (...) kann jedes Subjekt insofern nur als realisiert durch andere denken, die ihn selbst in ihre Verfassung gleichen.” (Henrich 2007, 148)

possibilities present themselves as motor potentialities, the body loses its tacit role as the medium that can act upon those possibilities. A flat possibility-less world thus renders the animate body impotent. This loss of proximity also affects the passive kinaesthetic coupling that bodily weaves us into the social world; this coupling refers to the continuous rhythm of synchronization in bodily gestures and gazes that normally undergirds unimpaired interaction (Bernieri and Rosenthal 1991; Chartrand and Bargh 1999). But this coupling is compromised or absent in severe depression. As a patient reports:

“When I go out and see other people walking, I feel a sensation of stopping, because I cannot follow their movements.” (Minkowski 1970, 333)

What the patient describes here is a slowing down of the body and a concurrent loss of synchronization with the body-schematic movements of others. This is a breakdown of both mimicry and coordination: the normally smooth pre-reflective matching of movements, gestures, and facial expressions at the heart of normal interaction (Merleau-Ponty 1962; Meltzoff and Moore 1977, 1989). With this breakdown, however, the body of the depressive becomes conspicuous and moves into the foreground of experience.

To sum up this section, we have argued that two main characteristics of depressive background emotions are that they are experienced as *non-contingent* and as *solipsistic*. While usually kept separate within the literature, we have established a connection between these characteristics. The experience of the depressive condition as resistant to change is intrinsically connected to the feeling being cut off from others—including the experience of bodily out of sync with them. The experience of normal proximity to others is thus modified. And this tacit awareness of the loss of proximity generates the experience of non-contingency: a feeling that one is solipsistically locked into one's current state without alternative recourse. Having established this relation, we now consider developmental studies that connect the *ontogenesis* of background emotions to early dyadic parent–infant affective coordination (e.g., Beebe and Lachmann 1998; Feldman 2007; Tronick et al. 1998, etc.). We focus in particular on the way that this coordination is characterized by *synchrony*.

3 Proximity and the Social Infant

Within the last three decades, the previously-dominant idea of the asocial infant (i.e., the “radically egocentric” and “solipsistic”) newborn (Piaget 1954; cf. Mahler et al. 1975) has lost scientific credence. Such views were championed by Freud, Piaget, Skinner and Winnicott, all of whom held that the newborn is not yet capable of interaction as a social being. However, since the work by Colwyn Trevarthen more than three decades ago (cf. Trevarthen 1979; Trevarthen and Hubley 1978), there has since been a veritable revolution; much emphasis is now placed on the innate social competence of the newborn: a “primary intersubjectivity” that rests on a suite of emotional, perceptual and sensorimotor capacities that allow the infant to meaningfully interact with others via pre-linguistic, gesturally- and vocally-mediated “protoconversations” (cf. Trevarthen 1979; Reddy 2008; Hobson 2002; Hobson and Meyer 2005; Meltzoff and Brooks 2007;

Rochat and Striano 1999; Tomasello 1999; Draghi-Lorenz et al. 2001). These early proto-conversational exchanges are said to rest on capacities that ontogenetically predate more sophisticated “theory of mind” abilities (cf. Premack and Woodruff 1978).

As Meltzoff and Brooks (2007) have pointed out, this new orientation (i.e., taking the infant seriously as a social agent) rests on at least three lines of empirical findings—Trevarthen’s work on preverbal or primary intersubjectivity, neonate imitation, and recent work in the mirror neuron system—all of which indicate a tight coupling between infant and caretaker. Space precludes a comprehensive survey of these three fields. Our focus will instead be on neonate imitation and primary intersubjectivity (cf. Heimann 2002; Kugiumutzakis 1999; Meltzoff 2006; Meltzoff and Moore 1997), complementary bodies of work that appear to support the idea of a tight intermodal bodily and emotional coupling between infant and caretaker. We shall use the term ‘proximity’, introduced in the previous section, to characterize this coupling phenomenon as it manifests at a very early stage of social development. As we use this term, ‘proximity’ does not simply to refer to the brute fact that individuals very often share interpersonal space; rather, it aims to capture the phenomenological character of how social agents inhabit, share, and mutually negotiate this interpersonal space (cf. Krueger 2011). This phenomenological orientation foregrounds the role that proximity plays in shaping and sustaining basic levels of social interaction.

3.1 Proximity: Tight Bodily and Emotional Coupling

As introduced in the discussion of depressive experience, *bodily coupling* is a crucial aspect of proximity. Long before infants develop the linguistic and representational capacities needed to explain and predict the mental states and behaviour of another, neonates comprehend another’s gestures, facial expressions, emotions, intentions, etc. as socially salient, and as implicitly suggesting communicative possibilities for their own bodies (cf. Hobson 2002). Not only do infants exhibit an instinctive social pull toward the bodily expressions of other agents. Additionally, it appears that the intermodal translation of others’ bodily-expressive behaviour and the own expressive possibilities “is operative from the very beginning” (Gallagher 2005, 80). Neonate imitation research supports this idea. For example, newborns less than an hour old can imitate various facial expressions such as tongue protrusion and mouth opening. Slightly older infants (2 to 3 weeks) appear to practice their imitations and differentially reproduce two distinct types of tongue movements (Meltzoff and Moore 1997). Since newborns have had no visual experience of their face, this research appears to indicate an innate mapping between action observation and execution; exteroception and proprioception are bound together from birth (Meltzoff and Brooks 2007: 153; Gallagher and Meltzoff 1996).³

A tight *emotional coupling* is a second aspect of proximity; this aspect has both an other-directed and a world-directed component. The other-directed aspect can be demonstrated by considering evidence for the ability of neonates to recognize the emotional significance of imitative episodes (Kugiumutzakis et al. 2005), that is, their being affectively responsive to contingencies in the micro-level behaviour of their

³ This intersubjective and intermodal interpretation of infant imitation is not universally accepted. See Jones (2009) and Ray and Heyes (2011) for dissenting views.

caregivers: variations in direction of gaze, facial expressions, tone of voice, level of arousal, and body orientation (Muratori and Maestro 2007; cf. Beebe et al. 1985; Tronick et al. 1979). Infants offer context-sensitive responses of their own which are offered to further drive the social exchange. The world-directed aspect of the phenomenological character of proximity relates to the awareness of the infant the she inhabits an interpersonal space. Rochat (2004; 2009) terms this aspect of proximity “co-awareness”, which is “the awareness that our presence in the world is communal rather than individual, a presence that is simultaneously shared with the presence of others: that one’s presence in the world is not alone but rather together with the presence of others.”⁴ Proximity thus refers to the ability to be co-aware of the attitudes and feelings of others as directed toward a common world (Hobson 2002, 2006); this awareness is a “mode of feeling perception” that sustains and reinforces “a special quality of relatedness to others” (Hobson 2005, 199).

So, before developing Theory of Mind abilities, infants are able to mobilize basic sensorimotor capacities that make them capable of entering into genuinely interpersonal engagements with caregivers. Proximity is thus a form of embodied-affective involvement with others that appears to be a specifically human achievement (Tomasello 1999). It rests on an integrated suite of sensorimotor, perceptual and affective capacities that allow us to become interactively *involved* with, and not just observers of, others very early on (cf. Hobson 2002; Reddy 2008).⁵

Important *epistemic*, *emotional* and *regulatory* functions attach to proximity. On the epistemic side, through proximity a new epistemic position on the world opens up for the child, one which broadens her cognitive horizon (Decety 2002; Tomasello 1999). To be involved with others via affective identification is a process that “... assimilates another person’s bodily anchored psychological stance (...), in such a way that the stance becomes a potential way of the observer relating to the world from his or her own position (Hobson and Hoson 2007, 411).” Thus, the epistemic function of proximity is that it not only enables the infant to learn from the other but also *through* the other, which is the key to the exploration of the external world (Hobson et al. 2004; Striano and Rochat 1999).

In the following, we shall be concerned more specifically with the *regulatory* and *emotional* functions that attach to proximity. We shall see that certain early forms of affectively-saturated dyadic interaction further develop this ontogenetically basic proximity, giving rise to background emotions in the infant. Additionally, we shall

⁴ For Rochat, co-awareness is behaviourally manifest in early face-to-face interaction via socially elicited smiling, which occurs about 6 weeks or so after birth (Rochat 2004, 7). This expression is the first public signal linked with *association* and not mere *satiation* (i.e., the reception of basic physical care from caregivers).

⁵ This is further illustrated, for example, by two month-olds’ frustrated emotional reaction toward the adult who adopts an emotionally unresponsive “still face” after having first initiated an interaction (Tronick et al. 1978; Murray and Trevarthen 1985). Moreover, prior to developing a conceptualization of the self (i.e., around 18 months), infants display “self-other-conscious affects” that perform both a regulatory and a constitutive role in interpersonal interactions (Reddy 2008: 145). They show embarrassment when praised, coyness when greeted, pleasure in interaction, and pride in overcoming obstacles. These affective states are the medium through which the infant becomes aware of herself in relation to another, that is, as an object of another’s attention (Reddy 2008: 145; cf.). Co-awareness is thus essentially affective.

see that some of these dyadic interactions display a particular quality, *synchrony*, which enables the emergence of a distributed cognitive process: emotion regulation.

4 Synchrony and Reparation in Dyadic States

Synchrony refers to the ongoing repetitive-rhythmic sequential organization of non-verbal behaviour between caretaker and infant within face-to-face interactions. Research focusing on the earliest caregiver–child interactions has revealed a precise temporal coordination of various behaviours, including body movements, gaze, vocalizations and emotional expressions. It has been shown, for example, that there are several forms of bodily synchronization (e.g. between infant leg movements and adult speech) involving adaptation to the other’s gestural and vocal rhythms, and to their micro-level affective behaviour (Condon and Sander 1974; Brazelton et al. 1974; Trevarthen 2002).⁶

Feldman (2007) and Feldman and Eidelman (2004) have distinguished between three forms of temporal synchronicity that the relationship between the caregiver and the child can take on: “Concurrent relations” are the co-occurring of social gaze, vocalizing together and a particular arousal level. “Sequential relations” are those chains of actions that unite into a single flow of communication: typically, the positive emotional expression of the caretaker will precede the infant’s becoming positive and interested. “Patterned relations” denote the ‘narrative’ that develops within the interaction as caretaker and child progress jointly through more or less intense phases of emotional attachment. During the second half-year, synchrony becomes more complex as the emerging capacity for joint attention introduces the ability to co-attend to objects outside the relation. However, before infants develop the capacity to move and grab, they already interact with the world through interactions with the caretaker.

What is important for understanding synchrony’s relation to the ontogenesis of background emotions is its inherent *fragility*, that is, the fact that synchrony is always at the boundary of breaking down. In the course of the caretaker–infant interaction, there are often periods of interactive mis-coordination in which emotions or intentions are mismatched (Reck et al. 2004). For instance, the infant’s expression of positive affect is often met by the mother’s incompatible emotion expression or behaviours. This incompatibility disrupts the interaction. But importantly, instances of mismatch are usually followed by periods of ‘reparation’: dyadic states where emotions and intentions realign and the synchronic quality of the interaction is one again re-established (Tronick 1989). Synchronic interactions, including successful reparations, are taken to be crucial for the socio-affective development of empathy, self-regulation and attachment security (Feldman 2007)—partly because, as we will see, they have an important regulatory function.

⁶ For example, Murray and Trevarthen (1985) have showed that when the infant and the caretaker interact via a double TV monitor, the baby becomes distressed when the live footage of the mother is replaced with a recording of her behaviour earlier in the same interaction. The lack of an ongoing open-ended engagement carrying a sense of *contingency* is what disturbs the baby (also Fonagy and Target 2007).

4.1 Regulatory Function: Distributed Emotion Regulation

Synchrony in terms of micro-level affective behaviour matching has a genuine regulatory function, controlling the level of arousal (Cohn and Tronick 1988; Tronick 2002; Feldman 2007). Such regulation is a ‘distributed’ process. For instance, we may say that the biological regulation of the infants’ homeostatic system is ‘distributed’ between infant and mother, since it is realized in the interactions with the caregiver (Sbarra and Hazan 2008; Hofer 1984). In the same manner, in synchronic interactions, the executive function (EF) of the infant – the psychological processes involved in the regulation of action, attention, and thought (Anderson 1998; Zelazo and Müller 2010) – can be said to be likewise distributed between infant and caretaker.⁷ We suggest that by highlighting the disproportionate influence caregivers play in regulating young infants’ attention and emotion, we can motivate the claim that early EF (as it relates to the regulation of emotion) has a distributed character (Carpendale and Lewis 2006). That is, the components and processes that comprise EF, such as attentional control and emotion regulation, span across infant, caregiver, and the interaction that links them.

Consider first the distributed nature of attention regulation. Although visually impaired, newborns have some attentional control; as we’ve seen, they can focus on the facial expressions of others and imitate these expressions (Meltzoff and Moore 1977, 1997). But there are significant developmental constraints on the character and degree of this attentional control. This is because the inhibitory component of their attention is severely underdeveloped. In contrast to the *endogenous* and voluntary control exhibited by adults, early infant attention is thus primarily *exogenous* and involuntary (Gopnik 2009, pp.106–123; Posner and Rothbart 1998); it is largely regulated by things and events in the infant’s immediate environment that determine what infants look at and how long they look at it. So, neonates and young infants rely upon the physical interventions of caregivers (e.g., manipulating gaze with touch, gesture, vocalisations, etc.) to regulate their endogenous attention for them. These interventions allow the infant to exceed their current level of attentional development and temporarily realize a qualitatively higher (i.e., more stable and disciplined) form of socially-mediated attentional control. For instance, consider breastfeeding, perhaps the earliest form of socially-mediated attention regulation. Mothers in all cultures use a variety of physical cues (e.g., jiggling) to prompt infants to resume feeding during breastfeeding episodes (Kaye and Wells 1980). This turn-taking exchange—infants are active participants, reliably postponing their own behaviour until the mother ends *her* tactile behaviour (Alberts et al. 1983)—is a rhythmic, synchronous exchange in which the mother sculpts the infant’s attention and organizes her behaviour (Wexler 2008). This level of attentional and behavioural organization is one that the infant cannot realize outside of this dyadic system.⁸ Thus, it is the synchronic gestural dynamics

⁷ This characterization of EF is admittedly quite broad; moreover, there is no universally accepted definition of EF or its subcomponents (Martin and Failows 2010). Although EF is generally thought to emerge near the end of the first year (Zelazo and Müller 2010), the rudiments of EF are nevertheless present the first moments that infants and caregivers interact (Vygotsky 1997, p.153).

⁸ Like breastfeeding, merely holding and gently rocking a distressed infant to help them achieve a quiet state is another instance of external affect regulation. These physical interventions are often accompanied by the singing of lullabies, which can serve as yet another kind of environmental scaffolding helping to organize infant emotions. Infants entrain their gestural, respiratory, and affective responses to their rhythmic and melodic structure (Trehub and Trainor 1993, 1998; see also Krueger 2011).

of the social interaction that, within this context, provide attention-related regulatory mechanisms. This aspect of EF—regulation of endogenous attention—is a distributed process spanning infant, caregiver, and their interactive relation.

Emotion regulation in young infants has a similarly distributed character. It, too, requires a degree of control largely absent in the first year of life (Rothbart 1989). Moreover, non-regulated experiences risk resulting in excessive states of arousal that interrupts the infants' engagement with the world and hinders their socio-affective development. Accordingly, both the experience and regulation of emotions in infants necessitates "the participation of an attuned adult who can both construct and co-regulate the positive affect in a moment-by-moment process" (Feldman 2007, 609). While the infant is an active participant, the caregivers assert most of the agency; they guide exogenous attention by scaffolding "infants within particular play frames characterized by exaggerated contours, marked changes of tempo, and systematic repetitions" (Rochat et al. 1999, 951;). This manipulation of attention leads to the emergence of certain emotions within the infant that they couldn't otherwise access. For example, instead of matching the infant's expression of negative affect, the parent will initially express sympathetic emotions (e.g., uttering "Ooh, is someone unhappy?" in an exaggerated sing-song manner whilst frowning) but then elevate the shared affect by smiling broadly and adopting a jollier, more melodic and buoyant mode of expression (e.g., "C'mon, then! No need to be sad!" expressed with a rising inflection). The still face paradigm (Murray and Trevarthen 1985; Tronick et al. 1979) is another vivid example of the importance of caregiver scaffolding in constructing and co-regulating emotional experience. Until the infant develops the requisite control of attention (i.e., the ability to regulate endogenous attention outside of the dyadic context), the origin of positive affect remains inherently dyadic.

Again, the important point for this discussion is that the (distributed) regulatory function of synchronic interaction enables the infant to realize a qualitatively advanced form of attentional control and emotional self-regulation within the dyadic coupling of the caregiver-infant. The caregiver thus becomes a crucial part of the infant's distributed regulatory process (i.e., EF), co-determining the intensity and phenomenal character of experience and the infant's arousal. The synchronic infant-adult exchange—that is, the microregulatory dynamics that coordinate and sustain the interaction—generates the emergence of a regulatory dyadic system that "contains more information, is more complex and coherent than either the infant's (or the mother's) endogenous state of consciousness alone" (Tronick et al. 1998, 296).⁹ While the infant enjoys some degree of agency within this process, their agency is mediated by the interventions of the caregiver, who exerts most of the emotional agency within these interactions by continually optimizing the stimulus value of their auditory-visual-tactile packages, crafted to keep the infant in an "optimal zone for play" between over-stimulation and under-arousal (Stern 2010, 108; Trevarthen 1993; Trevarthen and Reddy 2007). The caregiver's interventions provide the infant with regulatory input—but as we've seen, the infant's responses play a role in shaping the regulatory input they receive from the caregiver; there is genuine reciprocity within this distributed cognitive process.

⁹ Tronick (1998; 2002) has argued that in synchronous interactions and mutual regulation of emotion infant and caretaker enter into dyadic states of consciousness, in which both experience an *expansion* of their own state of consciousness and together form a new, shared state.

Having explored the *regulatory* function that shapes how the infant experiences its proximity to caregivers, we now turn to the *emotional* function of proximity. As we shall see, synchronous exchanges give rise to the ontogenesis of background emotions in the infant.

5 The Emotion Function: Background Emotions Arise from Dyadic States

In the context of dyadic interaction and the moment-by-moment scaffolding of these interactions via regulatory input from caregivers, individual exchanges gain different relationship-specific ‘affective contours’ (Stern 1985), which become manifest as *background emotions*. As Tronick notes, (2002, 87) background feelings come to be embodied in “co-created patterns of interpersonal relationships.” Both (Feldman 2007) and Tronick (2002) argue that background emotions are co-created in real time, within affective dyadic interactions; these background emotions provide the backdrop against which foreground emotions and cognitions are experienced.

The shapes and forms of background emotion are different, depending on the context of the interaction. Different interactive contexts have distinct features: specific dynamics, lengths, patterns of temporal coordination, patterns and peaks of high arousal and neutral states, etc. The type of affective contour that emerges within specific interactions is uniquely determined by these features. As Feldman (2007) has shown, the affective contour may also depend on the type of relationship and even the gender of the specific caretaker. For instance, interactions with the mother usually contain one peak of high arousal and several neutral states, while father-infant synchronic exchanges contain several peaks, but are of shorter duration. Thus, infants co-construct different types of background emotions with mother and father, and develop a ‘vocabulary’ of different background emotions relative to these distinct encounters. These vocabularies then secure the ongoing sense of self and integrate and organize cognitive and emotional experiences over time. But their predictability and the anticipation this predictability provides for the infant also brings a degree of continuity to the infants’ experiential life.

It is at this point that an important difference with standard emotions arises: while emotions may be an issue solely between the self and world, moods are co-created and sustained in interaction. Ontogenetically, they emerge within the dyadic infant-caregiver exchanges described above. Instead of understanding background emotions as individual phenomena, we may instead recognize them to be co-created within dyadic processes of synchrony and distributed emotion regulation. Taking seriously the distributed and co-created nature of background emotions, its emergence as the affective contour of being coupled with a significant other into a *dyadic emotion-regulating cognitive system* may then help us better understand some aspects in adult life. But first, let us see how we can cluster background emotions.

5.1 Positive, Negative and Solipsistic Background Emotions

We suggest that this form of synchronic, tight interaction with the caretaker provides the infant with a variety of background feelings that can be differentiated by the extent to which they are permeated by a sense of proximity to others. Thus,

background emotions are characterized by different senses of ‘proximity’ to others and structure and anticipate the unfolding experience against this backdrop. This suggestion builds on the work of Stern, who argued that background emotions (or ‘vitality affects’ as Stern calls them 1985, 66) bestow the world with different forms of “feeling-connectedness” (Stern 1985, 156–157). Tronick’s (2002; 2007) research can be interpreted as sustaining this thesis; in addition, we draw on some of his findings to establish further distinctions between positive, negative and – most importantly – pathological (depressive) background emotions. Of course, numerous other distinctions may be established, highlighting other aspects of background emotions. Nevertheless, distinguishing background emotions in terms of the different senses of ‘proximity’ to others, we suggest, helps us grasp the particularities of depressive background emotions.

Tronick argues that a positively valenced background emotion is “established out of the chronic moment-by-moment generation of positive affect experienced in match, mismatch, and reparation experience” (Tronick 2007, 359). While positive background emotions arise in connection to an accretion of successful reparations, negative ones are established over the course of interactions that are predominantly characterised by failing reparation. Tronick thus connects the valence of emerging background emotions to the success of synchrony and interactive reparation of mismatches. Consequently, achieving tight proximity with the caretaker governs the valence of the background emotion.

Things are slightly more complicated with depressive background emotions. What distinguishes a positively or negatively valenced background emotion from a depressive one is that the first two come with a *sense of contingency* or a sense of the emotion being susceptible to (intersubjective) reparation and change. While the infant is aware that lost synchrony and ineffective dyadic regulation might generate acute and disruptive states of arousal or states of anxiety, reparatory experience also teaches him that the negative affect might be overcome by another dyadic matching. Negative states come with the sense that they can eventually “be transformed into positive affect (achieving a match)—that one does not have to get stuck in a negative feeling state” (Tronick and Reck 2009, 148). The assortment of background emotions that the infant gains through having experienced stable patterns of synchrony and reparation carry with them the sense of contingency—that is, the sense that the child is able to secure affective regulation via entering into dyadic-like states. Thus, the sense of contingency that we take to characterize non-pathological (positive and negatively valenced) background emotions simply means that they can eventually be overcome by dyadically distributed regulation.

5.2 Depressed Background Emotions: No Proximity or Distributed Cognition

As we have noted, instances of mismatch are commonly followed by attempts at ‘reparation’, in which dyadic states are re-established, followed by the re-establishment of affective regulatory functions. However, some infant-caretaker dyadic formations have radically reduced amounts of reparation rates, meaning that there is little transition from mismatched to matched states. In the case of mothers suffering from post-partum depression, there is a *chronic* exposure to reparatory failure. Due to a chronic lack of alternation between transitory miscoordination and interactive repair,

the negative affect of the infant develops into depressed background emotion. Reflecting reduced competencies, infants of clinically depressed mothers do not succeed in developing appropriate emotion regulation; instead, they develop maladaptive strategies with long-term consequences (Manian and Bornstein 2009; Reck et al. 2004).

The chronic experience of reparatory failure leads to the emergence of background emotions that (to different degrees) lack the sense of proximity ('feeling connectedness'). But this goes hand in hand with the lack of the felt contingency of the background emotion. As the amount of stable patterns of reparations within interactions is persistently reduced, the infant begins to lack the reaffirming feeling that problems, negative affects and disruptive states of arousal can be overcome by regulation in dyadic extensions. Even though the background emotion lacking contingency is itself not the focus or of the infant's experience, due to its implicit framing function, the infant's experience of the world as a whole is somehow tapered, drained of vitality and experiential possibilities. Lacking the ability to enter into distributed cognitive emotional regulation with the caretaker, the infant becomes withdrawn and turns to self-soothing techniques and maladaptive emotion regulation strategies (Manian and Bornstein 2009). Such withdrawal then also functions like a shield that protects against anticipated negative emotions.

6 Synchrony and Distributed Emotion Regulation in Adult Dyads

Thus far, we have made a phenomenological and a functional point. We have substantiated the conjecture by Fonagy and Target (2007) that a crucial phenomenological aspect of depression is the experiential recreation of the infantile loss of proximity with significant others, which then makes the whole world appear flat. In addition, we have backed this phenomenological point with a functional one, arguing that proximity has a certain cognitive function allowing two individuals morph into a cohesive dyadic constellation in which there is a distributed emotion regulation. Depressive background emotions lack *proximity*. The cause of suffering may then not only stem from the psychological stress of losing another, but also from the desynchronization between self and other—a consequence of which is the loss of a potential external regulatory scaffolding. The disturbing sense of the lack of contingency may mirror this fact.

Drawing on developmental findings about the ontogenesis of (depressive) background emotions supports the view that phenomenologically, depression somehow involves an experiential 'recreation' of the infantile loss of proximity. Although there are differences as to the specific capacities that are inhibited, there is a significant structural similarity that warrants the talk about 'recreation'. However, our results do not allow us to generalize in the same way when it comes to the functional continuity to adulthood. We have seen that the cause of suffering in depressive background emotions is not only the psychological stress of losing another, but also the felt loss of the possibility of dyadically distributed emotion regulation. However, without additional arguments, we cannot maintain that this is also the case in adulthood: we cannot sustain our functional thesis that the distress in depressive background emotions and the lack of contingency is connected to the lost possibility of dyadically distributed emotion regulation.

To be able to make this point, we first need to make clear that synchrony and dyadically distributed emotion regulation also characterizes some adult relationships. To our endeavour here, it is important to first note that although synchrony in distributed emotion regulation is usually considered as a developmental phenomenon, there is growing evidence that dyadic adult relationships have similar functions (Diamond and Aspinwall 2003). While dyadic formations most strikingly form distributed regulating unities in interactions with infants, such formations also emerge in adult stages, providing a context for distributed emotion regulation throughout life. To show this, we shall focus on two types of dyadic relations, the one between adults in intimate romantic relationships and the one between therapist and patient.

As to the first, the dyadic interactive attachment formed between infants and caretakers has often been compared to dyadic couples in formed between adult lovers (Hazan and Shaver 1987; Hofer 1994). For instance, the amount and quality of bodily synchronizations is a reliable predictor of relationship quality. Interactional synchrony in characterizes the communication patterns of martially satisfied couples (Julien et al. 2000), and even common bodily movements (e.g. in walking) are more synchronized in partners in affective are dyadic relationships (Miles et al. 2010). In addition, there is indication that dyadic regulation of emotional and physiological arousal is an important feature of adult romantic attachment (Hofer 1984; Sbarra and Hazan 2008; Pietromonaco et al. 2006; Saxbe and Repetti 2010; Diamond 2001; Laurent and Powers 2007; Shoebi 2008; see Rohrbaugh et al. 2008 on the co-regulation of shared emotional experience in couples is a factor in smoking persistence). Studies focusing on bereavement connected to the loss of an intimate partner confirm this picture. Hofer (1984) suggested that responses to such loss of an intimate partner not adequately accounted for by the psychological stress of bereavement. Rather, an array of aspects - sleep disturbance, depressive background emotions, reduced food intake and appetite, and social withdrawal - become intelligible if we think of it as the loss of a dyadic co-regulator. The loss of the partner is also the disappearance of hidden “sensorimotor regulators” (Hofer 1984, 188; Hofer 1994; Sbarra and Hazan 2008), loss of dyadic distributed emotion regulation, which may make more intelligible the close semblance between reactions to bereavement and desynchronization of biological rhythms.¹⁰

Synchrony and dyadically distributed emotion regulation features also attach to the therapist-patient dyadic formation (Schore and Schore 2008; Schore 2003). In this relationship synchrony is an essential mechanism of the therapeutic alliance (Dales and Jerry 2008; Shaw 2004); and the amount of synchrony can be show to predict both the quality of the relationship and the outcome of the therapy (Ramseyer and Tschacher 2011). The degree of the synchrony and nonverbal coordination between the depressed and the interviewer is found to predict how the depression will develop (Geerts et al. 1996, 2006). In relationships with decreasing synchrony patients tend to respond less satisfactorily to treatment efforts (Geerts and Bouhuys 1998). Moreover, similar to infant-caretaker dyads, there is also what we have called a dyadically

¹⁰ Interestingly, there is virtually no way to accurately differentiate between depressive background emotions and affective states connected to bereavement. The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) criteria for a diagnosis of major depression excludes individuals with recent loss (bereavement exclusion) (Miller 2011).

distributed emotion regulation of emotions that surpass the client's regulating capacities (Fosha 2001; Tronick 1998; Dales and Jerry 2008). In case of the therapist-client relationship, synchrony seems to be an essential mechanism that helps achieve dyadically distributed emotion regulation and interactive repair: it "allows the clinician to act as an interactive regulator of the patient's psychobiological states" (Schore and Schore 2008, 16; Schore 2003).

In sum, synchrony and dyadically distributed emotion regulation—and their role in generating background emotions from dyadic exchanges—aren't confined to the early stages of our socio-affective development. These phenomena also characterize some adult relationships like intimate romantic relationships and the one between therapist and client. In other words, some adult cohesive dyadic constellations have a genuine cognitive function: they enable a kind of distributed emotion regulation that makes individuals more fit to adapt to stress and changed circumstances. This provides support for our functional thesis maintaining that – at least in part - the distress in depressive background emotions is connected to the lost possibility of dyadically distributed emotion regulation. So, the suffering in depressive background emotions lacking *proximity* does not merely reflect the psychological stress of being isolated. Additionally, it also reflects the loss of potential external regulatory scaffolding that enhances the individual's abilities to adjust to eventual demanding events. The exceedingly disturbing sense of the lack of contingency becomes intelligible as reflecting this loss of regulatory possibility, that is, as the phenomenological correlate of the loss of the possibility of dyadically distributed emotion regulation. While we do not claim that this sheds light on all facets of depressive experience, the point is that the sense of the lack of contingency is understandable if we link it to the loss of regulatory possibility.

7 Conclusion

Background emotions and the kinds of experiential spaces they create need to be taken into account in any adequate taxonomy of emotional experience. Their full comprehension also requires understanding those background emotions in depression that are socially isolating and which seem absolutely resistant to change. To further our understanding, we have applied an integrative methodology (combining philosophical analysis, conceptual advance and interpretation of empirical findings) and departed from the usual individualistic perspective. Instead, we drew attention to the co-created ontogeny of background emotions and demonstrated how they are linked to dyadically distributed emotion regulation processes.

We have distinguished background emotions in terms of how they convey the sense of proximity or connectedness to others. Thus, while Damasio argues that background emotions index momentary parameters of the organism's inner bodily state, the point here was that they index proximity or felt connectedness to others. We further argued that pathologically altered background emotions in depression reflect a lost sense of interpersonal proximity. We have found support for the view that phenomenologically, depression may be understood as a kind of experiential recreation of the infantile loss of proximity. In addition, we have also found support for the claim that proximity has a certain cognitive function allowing two individuals to

engage in dyadic constellations that allow distributed emotion regulation. Such dyadic synchronization and distributed emotion regulation also occur in certain adult relationships, allowing individuals to deal with stressful events and regulate deranged affective experience that they would be incapable dealing with alone. The excessive levels of psychological suffering in depressive background emotions then become intelligible not as mere correlates of social isolation, but also as the felt functional inability to enter into dyadically distributed regulation, which decreases individual abilities to adapt to demanding situations. Without endorsing the view of depression as adaptive, we note that this would be in agreement with the widely held view that (psychological) pain might have adaptive significance in informing the organism that it is suffering harm (Thornhill and Thornhill 1989).

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