Thomas Wiben Jensen* and Sarah Bro Pedersen

Affect and affordances – The role of action and emotion in social interaction

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Abstract: In adopting new theoretical advancements within cognitive science, emotion studies, and ecological psychology, this paper explores how the notion of affordances gains strength and explanatory power by being linked to the notions of affect and emotion. In doing so, it is claimed that the notions of direct perception and affordances can be used to analyse and understand the trajectory of fast and on-going choices that underlies human interaction as an ecological alternative to the micro-sociological perspective of Conversation Analysis. This perspective is laid out in in-depth analyses of three real-life examples from three different organizational settings: an emergency ward at a hospital, a school for children with special needs, and a kindergarten. Inherent in each setting one finds a pre-defined set of expectations of how specific actions are carried out by the participants to achieve organizational goals. However, in each example, slightly different and surprising actions are accomplished during the on-going interaction. As the participants engage in the task, they use the affordances of the environment – including other individuals – differently, which highlights the complicated nature of affordances in relation to social interaction. The situations all entertain a number of potential affordances; yet only one (or at least few) is enacted. It is argued that this choice – a pull towards certain aspects at the expense of others – is saturated by emotionality and affective involvement. Finally, these findings are used to illustrate how emotion and cognition can be re-thought, not as distinct processes, but as intertwined in an organism-environment-system.

Keywords: emotion, inter-affectivity, affordances, direct perception, social interaction, embodied cognition, ecological psychology, decision-making, learning

*Corresponding author: Thomas Wiben Jensen, University of Southern Denmark, Centre for Human Interactivity, E-mail: twj@sdu.dk
Sarah Bro Pedersen, University of Southern Denmark, Centre for Human Interactivity
1 Theoretical framework

1.1 Introduction: Laying down a path of actions

Our daily life can be seen as made up by an almost infinite number of actions. When we stumble out of bed in the early morning we choose to either go to the bathroom, get dressed, or to head for the kitchen and the coffee machine first. Many of these actions are of course governed by habit; we do more or less the same thing every morning without giving it much thought or feeling. However, when it comes to social encounters, the world of other people, we cannot rely on habit to the same extent. People are not like doorways and coffee machines; they do not just wait for us to act upon them. Instead, people are notoriously unpredictable and creative, making interactions remarkably complex. The minute we start engaging with other people, we need to act in accordance with the shared space every social encounter is made up of; in other words, we continuously need to make rapid choices on the basis of on-going behaviour. Most of the time we do this rather effortlessly, which begs the question of how we are capable of making rapid choices in the form of social decisions and how such actions affect the interpersonal environment.

In order to examine these questions further we draw on James Gibson’s notion of affordances (Gibson 1979 [1986]). The theory of affordances offers an interesting perspective on how the environment guides and scaffolds action and perception in species-specific ways. Affordances are often explained as action possibilities, which, according to Gibson, are what the environment “offers the animal, what it provides or furnishes, either for good or ill” (Gibson 1979 [1986]: 127). The core idea is that an organism directly perceives the possibilities for action within an environment. Direct perception means that an organism perceives a world of value, so the world is narrowed down to a path of species-specific tailored action possibilities: the cat sees the milk as a direct opportunity to satisfy its thirst, and likewise humans see a door handle, and the way it is shaped, as an opportunity to grab it and open the door.

In this article, we investigate how direct perception and affordances work in relation to social interaction beyond a functional and sequential level of analysis. And, crucially, we ask how affect and emotionality permeate action-perception cycles in ways that offer unexpected actions and outcomes. We examine how the notions of direct perception and affordances can be used to analyse and understand the trajectory of fast and on-going choices that underlies human interaction. In doing so, we argue that the theory of
affordances needs to be supplemented and closely related to contemporary notions of affect and emotion.¹

1.2 Affordances in social interaction

Anthony Chemero has convincingly argued that affordances are profoundly relational phenomena emerging as a result of an organism’s capabilities, needs, and particular environmental structures that altogether constitute a certain set of action possibilities: “Affordances are neither properties of the animal alone nor properties of the environment alone. Instead, they are relations between the abilities of an animal and some feature of a situation” (Chemero 2011: 191). While the physical terrestrial environment in itself is somehow one-dimensional and of no particular value, an encounter is both constrained by species-specific capabilities of the organism and its needs but also dynamic due to its capacity for adaptive and flexible behaviour. Thus, this relational approach to affordances proves useful in relation to social interaction since human interaction in itself is profoundly relational and variable.

From an ecological perspective, the principal affordance of face-to-face encounters is the possibility to share action – for instance, the possibilities for co-action, co-thinking, and co-feeling in the flux of social interaction (Cowley 2011; Steffensen 2013; Jensen and Cuffari 2014; Pedersen 2015). The immediate inter-bodily dynamics enabled by the interactive environment in the here-and-now of “doing language,” or languaging (Thibault 2011), with other people afford impulsive action and coordination in a joint space. In human interaction, all expressive behaviours, including wordings, stress, volume, tone of voice, gesture, gaze, head nods, and even the smallest acts of in-and out-breaths, are

¹ In this article we follow the standard definitions of affect and emotion even though we are well aware that there are plenty of disagreements as to how to differentiate between these phenomena – see Gross (2010) for an overview of this discussion. Thus, affect is both seen as primarily referring to valence sensations (good versus bad) as well as an umbrella term encompassing moods and emotions. Moods and emotions can be hard to disentangle but they differ mainly in terms of duration and intensity, i.e., moods are seen as less intense but longer lasting than emotions. However, since there is no clear-cut distinction between affect and emotion, the terms will be used interchangeably in this article. Furthermore, we are sympathetic towards Colombetti's (2014) more recent approach which sees affectivity as “a broader phenomenon that permeates the mind […] The mind as embodied is intrinsically or constitutively affective; you cannot take affectivity away from it and still have a mind. […] It refers to a lack of indifference, and rather a sensibility or interest for one’s existence.” (Colombetti 2014: 1)
completely interwoven with the dynamics arising in the inter-world of dialogue (Linell 2009). Relating this interactional complexity to the notion of affordances, the sheer bodily movements of our interlocutors can be seen as possibilities for different types of actions in the same vein as affordances in a physical environment. For instance, a specific type of gesture accompanied by gaze can be directly perceived as an opportunity to come closer, to walk away, or perhaps to hug, kiss, push, or smile to that person. Likewise, we directly perceive vocalisations as affording new verbal actions – for example, to say something new in an affirmative, evaluative, supportive, joyful, teasing, flirting, or antagonistic way. Gestures, facial displays, vocal acts, etc. set up affordances for trajectories of further action in human dialogue; they invite further actions.

1.3 An ecological alternative to a micro-sociological understanding of human interaction

To employ the notion of affordances to human dialogue is a rather new endeavour that has mainly been outlined on a theoretical level, as by Hodges:

In talking with each other, humans create affordances, opportunities that invite the other into seeing and moving in certain directions that look promising: Conversations seek good prospects. They seek to provide affordances for going on. (Hodges 2007: 597–598)

In this article, we aim to show the applicability of affordances on real life social interaction data. However, the ecological perspective differs, to some degree, from conversation analysis (CA), the leading field in the study of social interaction. The aim of CA has been detailed studies of how participants in conversation co-construct a social order by investigating how interactants, on a turn-by-turn basis, orient to and thereby exhibit their understanding of the state of talk (Hutchby and Wooffitt 2011). This is often referred to as “next-turn-proof-procedure” and it has created the basis for an evidence-based methodology that basically examines the social order of conversations, that is how turns are sequentially structured in a turn-taking-system (Sacks et al. 1974), as in for instance the sequentially co-construction of question-answer patterns in various social settings.

Even though CA successfully, for decades now, has unravelled crucial features and mechanisms in conversations, or talk-in-interaction, we claim that the basic micro-sociological research interests and methodology that define CA also prevent the approach from asking important questions related to the interrelation of perception, cognition, and action (Pedersen 2010, 2012, 2015; Steffensen 2013; Jensen 2014b). Our main criticism concerns the way conversations are looked upon and
investigated as a “social sanctuary” without any reference to or relevance for the cognitive and emotional dimensions of human action. A basic historical tenet for CA as it emerged in the 1960’s was to establish conversations as an independent object of study to be analysed in its own terms – and not as reducible to, for instance, psychological motivations (as in traditional cognitive psychology) or broader societal structures (as in traditional sociology) (Hutchby and Wooffitt 2011). An ecological approach shares the ambition of studying human dialogue in its own right; however, it does not share the belief that “cognitive and psychological phenomena are separate from social behavior. They may be disclosed in in social contexts, in that we can report our thoughts, verbalize our memories of events and articulate attitudes and beliefs.” (Hutchby and Wooffitt 2011: 217). The logic of this quote is a principal Cartesian distinction between the inner realm of cognition (and emotion) and the outer realm of public social behaviour. In each case human action and thinking are reduced to a single domain: a social or mental one. Building on this, it makes sense to separate the two if you want to focus on the details and complexity of social action in isolation. However, an ecological paradigm rejects approaches that reduce the complexity of human interaction to a single perspective:

Interaction cannot be reduced to a social phenomenon. CA does not fit an ecological understanding of human interaction because it demarcates its focus to social normativity and reduces all observed phenomena to the social order. From an ecological perspective, interaction is bio-cognitive, and thus enabled by biomechanics just as much as by the social order constructed through local coordination. (Pedersen 2015: 55ff.)

Following the ecological path allows for investigations of cognition, perception and emotion, not as underlying hidden structures governing social action but rather as part and parcel of the intricate web of human interaction itself. Cognition and emotion need not be seen as preconditions for action but as forms of action:

Cognition is action, rather than mental mirroring of an external reality. Cognition is a particular kind of action: a response strategy that involves both nonconscious processes and occasional conscious processes. [...] We think in order to act, and we act as part of our thinking. (Johnson 2007: 120–121)

Thus, inspired by Gibson’s idea of direct perception, we perceive the environment as a peri-personal action space and engage in a dynamic action-perception circle, which is saturated with cognition and emotion. Building on this, it becomes feasible to treat cognition as a phenomenon that is not only reserved to processes in the head but also draws on “extra-cranial” processes in the body, in the physical environment, in social structures, in cultural and historical patterns, and in interpersonal dynamics (Chemero 2011; Cowley and Vallée-Tourangeau 2013). While cognition is clearly dependent on neural activation in
the brain, seated in the head, it cannot be thoroughly understood as an internal process only. Instead, cognition and emotion are “something we do: we enact it, with the world’s help, in our dynamic living activities. It is not something that happens inside us” (Noë 2010: 64). In short, cognition, and to some extent emotion, have been re-conceptualised as part of an organism-environment-system and seen as a feature of the relation between the organism and the environment rather than as a feature of the individual in isolation (Jarviletho 2000; Anderson 2003; Chemero 2011; Steffensen 2013; Jensen 2014a; Pedersen 2015).

Finally, rather than separating the cognitive sphere from the social one, an ecological approach integrates cognition and emotion as part of our whole-bodied behaviour. Our actions and language are performed at the same time “materially embodied, culturally/ecologically embedded, naturalistically grounded, affect-based, dialogically coordinated, and socially enacted” (Thibault 2011: 211). Thus, our aim is to propose an approach that does not need to exclude cognitive and emotional dimensions based on a strict micro-sociological commitment. Instead, it: 1) integrates cognition and emotion with public action in investigating these phenomena as part of interrelated parts of an organism-environment system, 2) treats bodily actions on a pair with verbal utterances as equally meaningful actions in human dialogue, and 3) it investigates how our ability to enact affordances are affectively motivated.

1.4 Emotions disclose affordances

The root of the word emotion is movere (lat.) – “to move.” Accordingly, we often speak of emotions in terms of movement, i. e., we talk about “being moved, touched or gripped,” “torn apart,” “taken aback,” “weighed down,” “swiped off ones feet,” “blown away,” “cast down,” “elevated,” “lifted,” etc. On a fundamental level, this vocabulary implies that we are affected by and feel in conjunction with the movements of ourselves as well as other people: we see and experience other people’s emotions in and through their whole-body movements (facial, gestural, vocal and postural) and likewise we enact emotions by altering our voices, moving our bodies, using our facial muscles, making gestures, or touching or disconnecting with each other. From an interpersonal perspective, emotions emerge through embodied and dialogical movements in the inter-world between people in their physical and social environment (Johnson 2007; Colombetti 2014; Jensen 2014b). Furthermore, a core quality of emotions lies in the way in which they saturate experiences with value. In and through emotions, we experience something as “something” – fearful, exciting, boring, scary, attractive, or repulsive. Several neuro-scientific studies of people with
brain damage have convincingly shown that without emotion the world appears “grey” and uniform with no appeal to act upon it (Damasio 1999; LeDoux 1996).

Within such neuro-scientific studies, emotions are seen as complex neural, chemical, and behavioural patterns functioning as feedbacks on encounters or situations by which our bodies assess their state and make adjustments to maintain their homeostasis (Damasio 1999).² From an ecological perspective, however, emotions are as much part of our actions within an environment as they are part of our brains and bodies (Dewey 1894, 1895; Colombetti and Krueger 2014). Likewise, many phenomenological descriptions have emphasised the “about-ness” of emotions (Merlau-Ponty 1945 [1962]; Zahavi 2010); they are intentionally oriented towards events or objects in the world, which are appraised as attractive or unattractive, good or bad, and so forth. In this view, they are not to be seen as inner “mental states” alone but rather as part of active striving and world-orientation (Slaby et al. 2013). In short, emotions are tied to our engagement with the world as movements that connect experiences with situational affordances. In short, pursuing affordances depends crucially on an affective stance that evaluates the intrinsic attractiveness or aversiveness of an action in relation to the future direction of dialogical actions. The ability to perceive affordances of a given situation is always affectively geared in one way or another:

It is adequate to understand emotions as a complex sense of possibility: emotions disclose what a situation affords in terms of potential doings, and the specific efforts required in these doings, and potential happenings affecting me that I have to put up with or otherwise respond to adequately. These two aspects – situational (what is afforded by the environment) and agentive (what I can or cannot do) – are intimately linked to form a process of dynamic situation-access: an active, operative orientation towards the world. (Slaby et al. 2013: 42)

When we perceive the behaviour of others, we also directly perceive what to do next in and through our affective involvement in the situation. Human actions, particularly in a face-to-face encounter, invite responsive behaviour:

A friend’s sad face invites comforting behavior, a colleague at a coffee machine affords a conversation, and the extended hand of a visitor solicits a handshake. Affect plays a crucial role in preparing us to act in these cases: it signals which possibilities for action in a situation matter to us in sense of being relevant to us given our interests and needs. (Kiverstein and Rietveld 2012: 1)

² Within this tradition of emotion studies, distinctions are made between background emotions, such as energy, edginess, or calmness, primary emotions, e. g., fear, joy, anger, sadness, or disgust, and so-called social emotions such as shame, honour, pride, or jealousy. Furthermore, it is common to distinguish between emotions as bodily sensations related to environmental factors and feelings as conscious awareness of our sensations and emotional responses (Damasio 1999). For a critical account of these distinctions see Colombetti (2014).
However, in order to substantiate these claims they need to be examined empirically in real-life situations in which actions are carried out in the fast flow of human interaction.

### 1.5 Data and research questions

In this article, we analyse three real-life examples from different settings: an emergency ward at a hospital, a school for children with special needs, and a kindergarten. The examples are embedded in what one might call “organizational eco-systems” in which specific tasks need to be accomplished within the organizational setting, for instance formulating a diagnosis, achieving a learning objective, etc. A consequence of dealing with organizational eco-systems is that, in each setting, one finds a set of expectations of how specific actions can be carried out by the participants to achieve pre-defined goals. However, in each example, affective and even surprising actions are accomplished during the on-going interaction. As the participants engage in the task, they use the affordances of the environment – including other individuals – in creative and unpredictable ways, which highlights the complicated nature of affordances in relation to social interaction. We are interested in the processes by which constraints are anticipated and managed or complicate adaption. For instance, situations often involve salient affective situations in which perception is constrained and multiple affordances guide us simultaneously, which again increases interactional complexity (Pedersen 2015).

In the analyses, we zoom in on such complex interactions; for instance, we investigate how bio-social agents are guided by a fixated perception of affordances in a given situation. While the interactional environment consists of multiple potential affordances, each capable in the job of pursuing a given task, it becomes relevant to reveal what enables and shapes specific actions and decisions. Thus, we ask how an individual is capable of making rapid (dys)functional decisions in complex situations.

Crucially, the examples point to the role of affect and emotion in the exploration and utilisation of affordances. Together, the examples show that affordances are affectively perceived when realised in a given situation. The situations all entertain a number of potential affordances; yet only one (or at least few) is enacted. This enactment – a pull towards certain aspects at the expense of others – is deeply saturated by emotionality and affective involvement. Interaction is thus twofold: first, it enables individuals to adapt to a specific interpersonal ecological niche; second, by doing so, this ecology is constituted and maintained by individuals who engage in and exploit its action possibilities. However, with De Jaegher and Di Paolo (2007), Linell (2009), Thibault (2011), Fuchs (2013), Slaby et al. (2013), Colombetti
(2014), Colombetti and Krueger (2014), Jensen (2014b) we argue for the need to consider and ground affect and emotion in an ecological framework. By empirically showing how affect and emotion enrich the ecological understanding of how certain possibilities for action are exploited at the backdrop of multiple action possibilities, new insights about the socio-cultural constraints of human interaction are generated both at a practical and theoretical level. Thus, in the following, we pursue these questions in the analyses of three different organizational interactions.

2 Analyses

2.1 Method and transcription

The method used in the following analyses is Multimodal Interaction Analysis (MMIA) (Goodwin 2000). MMIA is devised to investigate social interaction as a whole-bodied activity embedded in a physical and social environment. At the heart of the method lies the assumption that the verbal and bodily non-verbal dimensions of language are equally important dimensions of the act of “doing language” (or languaging) with other people. Thus, MMIA takes into account the full array of situated embodied actions, including gesture, gaze, facial expression, posture, and head movement in synchronisation with verbal utterances. Likewise, MMIA makes it possible to investigate languaging as whole-bodied activity encompassing affect and emotion.

Furthermore, a basic model of the transcription system developed by the conversation analyst Gail Jefferson (Jefferson 2004) is employed in example two and three. It includes notations of basic prosodic features, such as pitch, volume, speed, intonation, and tone of voice (e.g., smiley or crying voice). Moreover, the textual transcriptions are combined with images. Images have the advantage of favouring an in situ impression of the interaction instead of a retrospective description; they allow us to show the dynamics instead of trying to describe them. The verbal utterances are presented in the Danish original first and then translated into English in the following line (in italics). The annotation tool ELAN\(^3\) is used to annotate multiple and simultaneous dynamics in the interaction process. Before a situation is investigated in depth, data is imported into the program that allows for precise annotation of simultaneous actions.

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\(^3\) ELAN is a professional annotation tool developed by researchers at the Max Planck Institute for Psycholinguistics, The Language Archive, in Nijmegen, Netherlands. It is developed for the creation of complex annotations on visual data (Sloetjes and Wittenburg 2008).
including verbal and non-verbal actions, such as gaze, gesture, body movement, verbal utterance, and activity type. The ELAN annotation tool enhances the analysis process and ensures exact measurements of multiple, overlapping actions in time, for instance an individual’s gestures and gaze orientation during verbal utterances.

2.2 Treating the environment as what? What a hand affords

The first example is from an emergency ward at a Danish hospital. Within the context of emergency medicine, the ability to make rapid and proper decisions is crucial for the general outcome of an emergency situation. Such situations are especially saturated with tensions, salient emotional constraints, and general stressful circumstances. Furthermore – and put a bit crudely – the biomedical model in Western medicine favours a logic that prioritises objective facts over emotional and subjective experiences. This model implies a pre-defined understanding of proper clinical behaviour. Thus, the model affords a specific kind of actions and frames decision-making in situated interaction in a fixed fashion that constrains flexible adaptive behaviour. One problem is that the biomedical model results in a disparity between patients’ experiences of illness and the biomedical categorisation and focus on physical symptoms, the disease (Putsch and Joyce 1990). The healthcare practitioner focuses on the bodily disease as it shows itself to the observer; what the patient thinks and utters about his medical situation is secondary: “It has been proposed that the inability to deal with illness is a major failing of biomedicine” (Putsch and Joyce 1990: 1050). As we will see in the example below, this has consequences in practical situations related to the (dis) ability to explore emotional affordances. In this situation, the doctor, a young female novice, struggles to get hold of the patient’s medical condition. The patient is an elderly woman who just arrived by 911 and her condition is critical, unresolved and unstable. Her husband is located next to the patient and he plays a key role in the history taking process, as the patient’s speech is impaired due to respiratory problems. Below is an illustration of the layout.

Overview of the setting

As the patient’s condition continues to worsen, the doctor confers with her primary doctor and they agree to call for further assistance and get a doctor of internal medicine to examine the patient. A few moments later, the doctor of internal medicine arrives and she immediately initiates a thorough physical examination of
the patient. The novice doctor follows the medical examination intensively and momentarily she observes the medical measurements on the electronic display located above the patient’s head. During this course of events, the patient suddenly reaches for the doctor’s hand. This patient-initiated emotional action changes the emotionality of the whole situation including the individuals’ sensitivity. The whole situation can be described as a trajectory of emotional alliances and disintegrating actions and this course of events is visualised in the figure below. The figure indicates the exact timing of the multiple dynamics in the interaction prompted by the patient’s bodily enacted wish for an emotional alliance.

From an ecological perspective, the actions are deeply embedded in the increasing physical rapport/closeness; as the doctor approaches the patient, she becomes an affordance for dialogue (see picture A). The patient perceives that the doctor heads toward the end of the ward where she lies and where the computer and the electronic display are located, and so she co-constructs her itinerary by requesting her attention. The doctor walks determinedly
towards the patient and responds by putting her hand out. At 00:28:60, the 
doctor is just about to hold the patient’s hand (see picture B) and she smiles 
at the patient. The doctor gazes at the patient and for a short moment they 
are emotionally aligned (this is further visualised as a dotted line in the 
figure). However, the doctor briefly reorients to the screen located above the 
patient’s head. It shows how the doctor is alert and needs to deal with 
medical problems, as the patient simultaneously requires an emotional alli-
ance. From the moment the doctor gazes at the electronic screen, only 0.8 
seconds pass until the patient lets her hand down again (see picture C). As a 
consequence of this, the emotional alliance between the two ceases. 
Accordingly, the patient withdraws and the doctor freezes for a moment 
before she places her hands on her hips and continues to observe the 
measurements provided on the screen (see picture D). Finally, the doctor 
turns around and walks to the computer (see picture E).

During this episode, no one says anything. As the doctor and patient align, a 
special kind of inter-affectivity emerges: when socio-physiological constraints are 
experienced in interaction, their effects shape the interaction trajectory. The patient 
primarily focuses on breathing and neither says nor does anything else while the 
doctors are occupied with individual medical tasks: examination and observation. 
Conversely, as the patient interferes with that practice, the dynamical flow changes, 
and the emotional commitment changes concurrently.

Figure 1: Emotional alliances and the affordances of a reaching hand. The figure indicates the 
patient and the doctor’s actions and gaze.
For 4.2 seconds, the patient and doctor seem to have a high level of emotional alignment, even though the doctor does not gaze at the patient for the last 0.8 seconds of the alignment (see Figure 1). The patient obviously wants something from the authoritative doctor and she directly perceives the physical closeness of the situation as an affordance for physical and emotional contact (the patient repeats this action three times and reaches out for the doctor several times during the physical examination). In other words, the patient seeks a soothing or calming relationship or a reassuring explanation from the doctor. However, from the patient’s embodied behaviour, it appears that she primarily seeks contact and a dialogical relationship rather than attempting to communicate a specific content. Even though she is inhibited from speaking, she could point or otherwise indicate a communicative need. Rather, she seeks a professional, dialogical relationship by holding the doctor’s hand. Other studies have shown the value of holding hands and explain it as a dialogical, intimate act that connects individuals and entails moral obligation for caring behaviour (Linell 2009; Hodges, 2009). However, the holding hand episode only last for a few seconds and the patient continues to appear scared and, as mentioned earlier, continues to reach out for the doctor whenever she perceives the chance to do so.

2.3 Social and professional constraints on affordances

So why do the doctor and the patient act in and perceive the environment differently? The situation is saturated with emotionality in various respects. First, the patient’s condition is acute and problematic: time is a challenger that stresses the cognitive decision-making process. Second, the patient appears scared and insecure about her condition and about what is going to happen to her (she lies undressed and exposed in the bed and the situation is characterised as messy and stressful). Third, they are both embedded in the reciprocal relationship of stressful behaviours: the doctor moves rapidly around, fixes,

Moreover, the soothing effect of touch has been demonstrated in other studies. For instance, a neuroscientific study investigated the relationship between stress relief and holding the hand of another person, concluding that: “results indicated a pervasive attenuation of activation in the neural systems supporting emotional and behavioral threat responses when the women held their husband’s hand” (Coan et al. 2006: 1032). Even though the attenuation of activation in these systems was limited when the test persons held a stranger’s hand compared to their husband’s hand, the effect was still present. Again, whether this patient wants to be calmed down, needs specific information, or something else remains uncertain as the doctor only co-acts and aligns with the patient for a few seconds.
moves, etc., and the patient’s gaze follows the doctor as she pants due to her respiratory problems.

In theory, one could point towards multiple affordances that would guide the doctor’s action in a meaningful way, but these environmental possibilities do not appear as affordances to the doctor. The doctor’s evasive gaze, her reduced sensitivity to what the patient seeks from her, her fixated attention to the biomedical numbers on the screen, and the evolving critical situation paradoxically afford the doctor to continue as she has done hitherto. The doctor’s continuous focus on the medical measurements engages her in abstract cognitive activity, which means that she is unable to perceive the same type of affordances as the patient; her situation awareness becomes reduced and the emotional alliance dissolves. The patient’s reaching out seems to be an unexpected act that is treated as a disruption of the system of medical treatment rather than as a possibility for a closer emotional contact and soothing behaviour. In the end, the patient becomes excluded from the cognitive niche of treatment and dialogical niche of caring presumably because the doctor prioritises or is overloaded as she engages in medical hypothesis generating. However, even from a medical point of view the doctor is acting irrational as her fixation and moving around do not contribute to the medical problem solving process. Further, as the doctor of internal medicine is present, working on the bio-medical symptoms, the doctor has time to focus on the overall well-being of the patient. For split seconds, then, the doctor attends to the patient’s emotional action, but the orientation is fragile and reluctant: she avoids stable eye contact, holds her arm in an awkward position, and she does not appear to identify the patient’s actions as need for emotional alignment beyond a brief response.

So why is the doctor’s visual sensitivity constrained or narrowed down? With Goodwin (1994, 2000), it becomes relevant to investigate perception as a shared, social, and professional skill that is shaped by expectations relating to domains of seeing particular things or situations as something: doctors must be trained to immediately see the body as something that is very different from what a dance choreographer immediately sees. As such, the world from a doctor’s perspective has different affordances for action than the world of other professionals: perception is not just species-specific, it is profession-
specific too. As mentioned in the beginning of this example, medical culture builds on a biomedical model that downplays emotional dynamics and priorities objective medical problem-solving over interpersonal relations when dilemmas arise. This doctor is not trained to see the emotional outburst as relevant for diagnostic activity. Such expectations and claims, it is hypothesised, can frame local attention and blindfold practitioners in a way that inhibits them to perceive their environment in a rich way which would enable creative action possibilities to emerge. To the doctor, the hand reaching out for her does not become an affordance for dialogue or caring attitude in the long run; rather, it becomes an affordance for a disintegrating behaviour that leads to task switch, as she almost immediately gazes at the screen so that the patient will let go of the doctor’s hand, after which the doctor turns to the computer. To sum up, the doctor and patient’s actions are permeated with emotionality that is grounded in the same situation but presumably connected to different domains of perceiving. The patient’s domain relates to her personal, non-professional situated perception of her symptoms and overall health situation; the doctor’s, on the other hand, connects with the organization’s expectations for dealing with the biophysical aspects of the patient’s appearance. However, emotionality is ubiquitous in social interaction, which means that even reduced sensitivity toward rapid emotional dynamics reveals just another emotional trajectory characterized by fixation, less synchronicity, and more individual-oriented behaviour – which again explains why action and perception in the environment are more difficult to coordinate in such situations.

2.4 Manipulating the environment by affective perceiving

In the first example we showed how an affordance for emotional alignment was perceived differently with negative consequences for the patient’s overall situation. The patient is treated; however, the treatment is characterized by fixation, hesitation, and behavioural patterns that contribute neither to the medical side of treatment nor the dialogical relation with the patient. In the following example, in a very different ecological niche, we shall see how an unexpected action by a child with special needs is used to momentarily manipulate the environment in a way that allows new affordances to emerge, finally enabling the child to realise a goal by a circuitous route.

Martin and Erich are six years old, twins, and both diagnosed with Down’s Syndrome. They attend a Danish school for children with special needs and they seem to enjoy participating in the various learning activities. One of these activities consists of playing a board game with different cards depicting various
objects, animals, and social situations like getting on the bus or going to the
dentist. The pedagogical objective of the game is to scaffold the children’s
abilities to recognize, verbalise, and describe what is illustrated on the cards.
The teachers thereby train the children’s verbal skills as well as their social
knowledge. In the sequence below, Martin and Erich sit in front of each other
and a language and speech therapist sits at the end of the table. As we enter the
conversation, Martin has just drawn a card and is now supposed to say what is
on the card.

Example 1: Participants: S: Speech and language therapist; M: Martin; E: Erich.

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6 This data example has been made available by professor XXX, on condition that the
anonymity of all the persons involved was upheld. We would like to express our gratitude to
Gitte Rasmussen for the opportunity to work on these data.
In line 4, M does something unexpected: instead of delivering a verbal answer to the two questions raised by S (see line 1 and 3) to reveal what is on the card, M suddenly performs a variety of bodily actions. Up until that point, M has been sitting still while holding out the card with his right hand for both him and the other participants to see. But all of a sudden, he shifts activation level. He becomes highly energetic, moving his torso back and forth, kicking under the table, smiling and moving his head as he utters two distinct sounds with high volume: RRCH RRCH resembling the sound of pigs (see picture 1). These bodily and vocal activities are timed and highly coordinated as they emerge at the exact moment in which a traditional verbal answer would be expected. But instead of producing a category answer of what is on the card, M is acting the depicted content by uttering pig-like sounds and moving as a wild animal. M enacts a profound emotional value through his embodied behaviour. As mentioned before, he smiles, kicks his right leg back and forth under the table while he energetically moves his upper body back and forth. The speech and language therapist immediately responds to these bodily actions by changing her activation level as well in the first half of line 5: ☺YES WHAT IS IT CALLED↑☺. She widens her eyes and gazes directly at M while smiling and speaking with a distinct smiley voice, high volume, emphasis, and a rising intonation. In other words, for a brief moment in the interactive flow, the two interactants seem to be completely “in sync.” That is, the co-ordination of bodily, vocal, and verbal actions by M and S constitute an inter-affective alignment creating an intersubjective understanding in situ. In that sense the embodied emotional actions of M in line 4 can be seen as affording or making possible co-presence and playfulness between him and the speech and hearing therapist. It is an emotional action that invites further bodily and emotional participation. For a short moment, it renders the conversation in a certain direction towards sanctioning and incorporating not just verbal utterances, i.e., proper verbal answers, but vocal and bodily actions as legitimate ways of participating and answering as well.

However, since the predefined purpose of the card game is to recognise as well as verbalise what is on the cards, these bodily and emotional actions do not – strictly speaking – live up to the standards of how the learning game should be played. The predefined goal is first and foremost to practice verbal skills – to verbalise and describe what is on the cards and to speak up when you win a trick. Secondly a related goal is to advance the children’s social knowledge, which is reflected in the following turns. In line 6, S only waits 0.2 seconds before she herself provides the answer to the question she posed in line 5. It is worth noticing the tiny details of how the answer is performed interactively. While uttering: a:, with a prolonged sound followed by a micropause, S initiates an iconic gesture (see picture 2) making two distinct circular movements with her right hand in front of her nose apparently depicting the round nose of a pig (or a wild boar). Further,
this visual dimension that S adds to M’s previous bodily and vocal actions projects a verbal answer from M. In fact, in line 7, M initiates an utterance with a low voice, but since it is in overlap with S’s turn in line 6, it is impossible to distinguish what is actually said. Instead S continues and in effect answers her own question immediately after M’s subdued attempt at uttering something. Thus, the inter-affective alignment lasts less than two seconds in the interaction. In line 8, S requests confirmation of the ownership of the card in question: who’s got that one? Alongside, she changes her gesturing by pointing to and even touching M’s cards on the table, thereby putting emphasis on a stance that seeks a (verbal) answer (see picture 3). Likewise, M’s bodily mode of activation changes completely. He suddenly sits still and gazes down at his cards, and finally in line 10, after a pause of 1.2 seconds, he delivers a very brief verbal answer: me:: – his first and only one in the sequence.

2.5 Affording playfulness at the expense of rule-following

Returning to the initial inter-affective alignment between M and S, it seems evident from an ecological perspective that M directly perceives the action possibility of acting and playing the content of the card in an affective and playful manner. He does so by creatively manipulating the interpersonal environment into a zone of playfulness rather than one of rule-following, completing the task non-verbally. Instead of just saying “it is a wild boar” as he was supposed to, M performs the sounds and actions of a wild boar. It is a case of showing instead of telling.

M does not have the capabilities to use the affordances of language in the same way as the speech therapist. The therapist is able to use a rich vocabulary to represent what she sees. The rules of the game fits this understanding of language, as the children are supposed to verbalise what they see to realise the goal set by the organization. However, in-and-through his affective behaviour, M immediately perceives other affordances for producing an answer or for creative goal-orientation. The setting, the overall interaction and the relationship between the participants, affords other communicative values that can be realised through whole-bodied activity. By acting the answer, M shows (a) that he understands perfectly what is on the card, (b) that he is socially capable of engaging in dialogue (the timing of his answer and his engaging and emotional playful actions) and (c) that he is able to manipulate the layout of affordances to achieve a goal. Thus, his engagement with the game and the other participants enables him to use his environment in a creative way. Thus, the example shows how affordances in social interaction can function as more than “just” action possibilities, but also as creative change possibilities in and through engagement and trustful relationships – albeit only
momentarily. Affective engagement enables a rich environment, where affordances emerge as the individual has the courage to try out new solutions and to perform in unexpected ways.

2.6 Affordances in emotional learning

In the final example, we investigate how the ability to perceive affordances is intertwined with affective engagement, as in the previous example, and furthermore, how a trajectory of actions allows for a performative way of engaging in emotional learning that is related to a longer time scale of cultural conventions.

Kay, Louise, and Peter all attend a Danish kindergarten for four to six year-olds. A popular learning activity in kindergarten is the so-called emotion talks. These are led by a teacher who initiates the talk by showing a picture of another child with a distinct emotional expression to the children. Then, they all discuss the child in the picture and the emotion expressed within it. The objective of these emotion talks is to get the children to articulate emotional experiences and to help them interpret and make sense of different emotions. In this case, as shown on the pictures below, the teacher presents the children with a photo of a girl with a sad facial expression. The example pivots on what happens just after they have talked about sad feelings related to the abovementioned photo.

Example 2 (21 seconds)
Before this sequence, Kay has been sitting remarkably still alternating between gazing at the picture and sometimes at the teacher. But in line 1 she suddenly shifts into a more active mode (see picture 1). Milliseconds before she utters: *oh I have a pain in the heart*, she starts performing various bodily actions. Most noticeably she opens her mouth wide and makes a contorted face as if she is in pain. The teacher’s attention, however, is still on another girl, Louise, who sits behind the boy on the illustrations. To get the teacher’s attention, Kay repeats her turn in line 2 and adds: *now that I hear about these feelings* (see picture 2). She thereby puts her emotional “outburst” into context. Notably, at the end of this turn, she changes her emotional expression. She smiles, gestures vividly and gazes at the teacher as well as the other children with a playful look on her face (probably due to the fact that she now has got the teacher’s attention). Finally, at the end of the sequence in line 8, Kay again performs a whole-bodied expression of pain – or perhaps, rather, of being wounded – by leaning forward with smiley eyes, grimacing and opening her mouth wide open while saying: *ouch* (see picture 3). Again, she performs pain and she does so by directly perceiving the affordance of acting or playing with the emotion rather than, say, talking about it or trying to describe it. As in the previous example, this is an unexpected act that only comes about because the girl is capable of perceiving the affordances of creatively manipulating the situation. Furthermore, her actions are initiated and composed by an affective engagement as Kay is neither in physical pain nor emotional pain – but, in a playful way, she performs both. In that sense, she engages in emotional learning by acting wounded and thereby doing sadness.

Crucially, the actions of Kay afford a further elaboration by Louise in line 6, when she uses the related expression: *a pain in the stomach*. The initial actions of Kay afford a dialogical array in the interaction (Hodges 2009), paving the way for a further elaboration on the experience of pain by other participants as well. This way of perceiving dialogical affordances have an experiential dimension as well, i.e., the enactment of these emotional actions make certain experiences available within the interpersonal ecology for other participants to share and develop.

Together and in competition, Kay and Louise enact a space of playful and emotional engagement in which they explore and play with the experience of sadness and pain. Treated as a whole of inter-bodily dynamics, the girls’ actions are co-experiential. They draw on experience and knowledge about sadness as they also use the situational affordances for playing out sad-related feelings in a group. As they get responses from each other and from the teacher, they adjust, share, and experience anew the merging fields of other’s expressions and their own emotional capabilities for understanding emotional states. As they enact
emotions of others they understand such expressions – not through representation processes – but as embodied self-expression. By playing out expressions through her body, Kay enacts and plays with the emotion of sadness of the pictured girl, which invokes an emotional change or attachment to the story. In other words, interpretation of emotions cannot be explained as representational information.

Mikhail Bakhtin has famously described how a word in a language is never entirely your own as words pertain a longer time scale in and through the ways in which they have been used before.

The word in language is half someone else’s. It becomes one’s “own” only when the speaker populates it with his own intentions, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. (Bakhtin 1982: 294)

Related to this example, one might add that the girls are appropriating not only the words but also the behaviour and expressions of sadness. Jointly, they practice new ways of understanding sadness by playing not just with popular expressions but also with recognisable behaviours associated with the emotion of sadness. In that sense, the embodied behaviour of the children also employs the culturally conventionalised associations between the human heart and human emotions that is pertinent on a longer time scale. Note that appropriate teacher-affirmed deployment of cultural knowledge is itself a goal of the emotion talks and a value that the girls seek to realise through their participation. They perceive the affordances of exploring these emotions and they thereby learn about them in an alternative way: by acting them in a safe and playful manner in the context of a learning environment.

3 Discussion and perspectives

3.1 An ecological perspective on emotion and cognition

In this final section, we briefly point to the consequences and perspectives of relating affect and emotion with affordances for theories of emotion. Acknowledging the ecological turn in cognitive science and its consequences for re-thinking the concept of cognition as embedded in the environment, we will also argue for the need for integrating emotion and affect further into this re-conceptualisation. In fact, relating emotions to the environment is by no means a new endeavour; after all, most theories of emotion adhere to the assumption that, from the very beginning, emotions are tied to some sort of
valence, i. e., intrinsic judgement, and in that sense are directed towards environmental possibilities or obstacles. This environmental entanglement begs the question of whether affect and emotion should be conceptualised in a similar way as evident in contemporary notions of cognition, that is, as part of an organism-environment-system. In a recent article this question is raised:

It is not just that we aren’t isolated thinkers; we aren’t isolated “emoters” either. Our affective life is not “sandwiched” between perception as the input and action as the output of repeated sense-appraise-feel-act cycles, and not detached from our embodied interaction with our environment. If anything, the case for an intimate coupling of brain, body, and environment should have been even more obvious for emotions from the very start. If thinking about cognition had not made us wonder about situatedness, emotions should have. (Stephan et al. 2014: 67)

It seems obvious that emotion is tied to environmental factors in the same way as cognition. However, it is mandatory to show exactly how emotion contributes to an individual’s “being in the environment” in-and-through the trajectory of situated actions. As argued in this article, a promising way of pushing this idea forward is by relating emotion closely to the notion of affordances and direct perception.

As shown in the analyses, participants in social interaction directly perceive affordances for further action in-and-through their affective engagement within the situation. This direct perception cannot in any meaningful way be divided into a cognitive domain and an emotional domain. If separated, the process could not be viewed as direct. In dividing perception and action into cognitive and emotional parts, one is forced to draw on a representational view on cognition and action in which action is based on a previous evaluation or appraisal that then triggers an emotional response, as in so-called cognitive theories of emotion, such as appraisal theory (Lazarus 1991; Scherer et al. 2001). However, instead of dividing action into cognitive and emotional parts, a starting point in direct perception and affordances helps us to look more closely at the entanglement of cognition and emotion as a complex process constituted by feedbacks of many shifting components. Previously, Giovanna Colombetti has illustrated this by re-interpreting a classic example of fear:

Fear, for example, is not triggered by a first, neutral, nonvalued, non-emotional event. What is there is a self-sustained organism whose interactivity with the environment is intrinsically valenced (because of its previous history). The objects that fall within its domain of interactions get emotion-laden accordingly. To value something as dangerous requires us to be already inclined to fear it; and to be inclined to fear something requires an intrinsic appreciation of its harmfulness. The cognitive (or evaluative) and the emotive moments are not separated, nor sequentially ordered. They are part and parcel of the same organic activity unfolding in time. (Colombetti 2003: 8)
Sense-making is saturated with emotion and cognition in complex feedback loops and in equal measures. In an ecological perspective, emotion and cognition can be thought of not as distinct processes but as intertwined in an organism-environment-system. Thus, by viewing emotion and cognition in terms of how they disclose ways of skilfully engaging with the world, an ecological perspective is laid out.

References


**Bionotes**

**Thomas Wiben Jensen**

Thomas Wiben Jensen, Ph.D. is an associate professor at the University of Southern Denmark. His research areas include ecological cognition, the role of affect and emotion in social interaction, metaphor and metaphoricity, and the philosophy of science.

**Selected publications**


**Sarah Bro Pedersen**

Sarah Bro Pedersen is an assistant professor and Ph.D. at the University of Southern Denmark, Department of Language and Communication. Her research areas include interactivity in organisational settings, distributed and ecological cognition, and cognitive event analysis.

**Selected publications**

