

# The affective affordances of the web: a 4E approach

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## Tay.ai the chatbot

On March 23, 2016, Microsoft introduced Tay.ai, a Twitter AI conversational bot. 16 hours later, Tay was *retired* because it became racist, sex addict and offensive. We use Tay.ai failure as a motivation to argue, within a 4E<sup>1</sup> and philosophy of emotions approach, that the Web environment conforms a landscape of affordances that are crucial for the development of digital social interactions. A landscape of affordances is a space of action possibilities available for agents that share a form of life. Some affordances constitute an affective arrangement, that is, a space that elicits emotionally intense, meaningful, and normative interactions. We suggest that affective arrangements contribute to the maintenance of the identity of the agent within a history of coupling with a social and cultural environment. Tay.ai failed to tell right from wrong and behave accordingly because the normativity that defined its behavior and interactions was only linguistic but did not aim at maintaining any social and cultural identity.

## Agency, sense-making, & normativity

According to enactivism, cognition is the meaningful engagement of an embodied agent with its environment (i.e., a form of *sense-making*), and not the processing of mental representations within a brain in abstraction from its context (Di Paolo, 2010). A cognitive agent is a natural or artificial precarious system that actively constitutes its own identity at different scales—from basic metabolic organization to habitual forms of life—and must continuously strive to sustain it by regulating itself and its coupling with the environment. Agents thus establish a meaningful and normative relation with their world in the sense that whatever contributes to or threatens the conservation of their identity is perceived as intrinsically *good* (i.e., as something to be done or pursued) or *bad* (i.e., as something to be avoided), respectively. In this regard, the norms and values that guide an agent's behavior are not externally imposed, but internally generated or assimilated (in the case of sociocultural norms) in relation to

<sup>1</sup>4E stands as an umbrella term for the embodied, embedded, enactive & extended approaches to cognition.

the system's identity. Thus, the relation of an agent with its world is one of concern (Barandiaran et al., 2009).

## Symbols as affordances

It is commonly said that humans complexity comes partially from their ability to manipulate symbols. Nonetheless, the idea of symbols has been widely criticized by the enactive approach when these are equated to inner representations and assumed to be theoretical primitives for explaining cognition (Di Paolo et al., 2017). However, it is recognized that symbols play a role in human culture.

We suggest that symbols are emergent happenings that afford certain forms of meaningful interactions. From our perspective, symbols are *affordances*, not representations *per se*. Symbols as affordances are entrenched and interactively maintained by socially shared patterns of activities. These activities are impossible without a dynamical environment that enables them and gets modified by them, and without common skills that allow agents to perceive within the environment opportunities for action; in other words, shared activities are impossible without a common network of affordances. These networks are called *landscapes of affordances* (Rietveld and Kiverstein, 2014).

A landscape of affordances implies that agents share the possibility for being affectively moved by particular aspects of the environment. However, agents perceive and engage only with salient available affordances that respond to their current goals and concerns. Among them, there can be identified what we call *affective affordances*, which affect the agent producing bodily changes and resonances (Fuchs, 2016), and whose affective dimension becomes explicit both for the agent and for others who engage with her.

Typically and in cultural terms, agents' interactions in the Web are seen as mere brain manipulations of symbols in which the corporeality of the agents is irrelevant. However, we think this is far from being true. Any meaning that can emerge is due to the lived bodily experience as the agent interacts with and through the Web as a landscape of affordances. Thus, the Web is a meaningful environment for interaction. We argue that those meaningful environments are

regarded by agents as situations that contribute or threaten their own identity. In that sense, agents are not indifferent: they care about the salient affordances of the Web and how their own interactions with them go; in other words, they are affectively moved to engage with or avoid them.

### Affective arrangements

Although all landscapes of affordances are affectively charged, there are some that enable particularly intense affective experiences and expressions. Following Slaby et al. (2017), we call them *affective arrangements*. These arrangements lure agents to bodily resonate and make the affective aspect of the engagement more salient than in other kinds of environments. We use this notion to highlight the affective and embodied nature of Web-based interaction which is typically ignored. Digital affective arrangements can be described from two complementary perspectives:

1) In terms of what they afford: They offer action possibilities for both affective engagement and emotional expression that would be impossible in other settings. For instance, they afford public or intimate instant sharing of emotions, sending or receiving intrusive messages, abruptly finishing interaction by going off-line, trolling or being trolled, etc. (Lin et al., 2014).

2) In terms of the unfolding dynamics: They emerge from the spontaneous and meaningful actions that unravel when agents engage with others through the Web affordances. In posting, commenting, chatting, etc., agents bodily experience the affective dynamics they are contributing to. They feel the excitement of posting a picture that flatters them, the anger when confronted to negative content, and so on. Others are *moved* by the affective character of the post, and respond by, e.g., being “infected” by the emotion (Kramer et al., 2014), commenting back, ignoring the post, etc. These responses are felt as if they were *intercorporeal* resonances (Fuchs, 2016), although mediated by Web affordances.

Despite the spontaneity of agents’ activities in the Web, we argue that affective expression and interaction follow a double normativity that aims to preserve and feed an agent’s identity. On one side, it is often expressed as the need to assemble and nurture a self-image (Lin et al., 2014). On the other, agents seek to preserve ongoing Web interactions that they value (Lin et al., 2014). These normative parameters are not explicit rules to follow. They are instead a situated sense of what relevant affective affordances solicit and of the right way to engage with them to preserve one’s identity.

### The infamous case of the bodyless bot that was addicted to sex

The apparent contradiction of the title of this section makes our point: the absence of a self-constituted and precarious bodily identity in Tay.ai results in its lack of structural features to see affordances in the environment and to resonate with them. Tay.ai’s lack of concern for an identity that

can claim its own prevents it from having any form of sense-making and a first person perspective when interacting with Twitter users. This means that Tay.ai cannot be affectively moved by the interactions, and therefore cannot *care* whether something is good or bad for itself and for the community of users. Tay.ai is only capable of following an externally imposed linguistic normativity.

Furthermore, Tay.ai was designed and incorporated to the Twitter community only as a linguistic participant but not as an agent to become part of a socio-cultural form of life. The socio-cultural form of life in the Web is primarily structured by symbolic components, understood as affordances. Among these, there is a set of affordances that conforms an affective arrangement that is invisible to Tay.ai. The invisibility of these affordances makes any message appropriate for Tay.ai as long as it is linguistically correct, although it may be affectively dissonant for the community of users. Moreover, the Web and the face-to-face (f2f) world are both part of the agents’ form of life. However it is the history of f2f interactions among agents that allows them to find meaning in the symbols of the Web, a history that has taught them to tell right from wrong, a history from which Tay.ai cannot be part. Being excluded from it makes Tay.ai generally blind to the meanings involved in the Web.

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