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# Feelings as Evaluative Indicators

A Reply to Iuliia Pliushch

Joëlle Proust

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These responses aim at clarifying various aspects and implications of my proposal that feelings are affordance sensings. Affective quality, in the present proposal, extends beyond the domain of primary and secondary emotions to all feelings, because it results from specific features in the dynamics of valence. Feelings do not convey an explicit causal information about the world. Causal relations are, rather, implicitly represented in a felt affordance through the dynamic relations between the associated, embodied cues for location, valence and intensity and type of the affordance. Affordances are neither perceived nor inferred; they are “sensed”, which is an ability distinct from belief, whose informational input is derived from features of a perceived or interpreted situation or cognitive task. The input for an affordance sensing can well be conceptual; it is claimed, however, that even when a task is represented through concepts, the affordance-sensings elicited during the task are nonconceptual and evaluative. The relevant properties in affordance-sensings being dynamic, an interpretation of the view under discussion as being serial is resisted. Finally, Pliushch’s proposal for extending this theory to an interpretation of the feelings involved in self-deception is discussed.

## Keywords

Affective feelings | Causal information | Metacognition | Noetic feelings | Self-deception | Serial vs. dynamic processes | Valence

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## 1 Use of the term “affect”

One of the aims of this article is to try to define feelings according to their functional characteristics, when seen as all-purpose comparators. Iuliia Pliushch claims that my use of “affective feelings” is ambiguous, because they seem to be *defined* either as “feelings that possess valence”, or as “feelings that express emotions”. I am happy to accept the blame for not rephrasing in my own terms the subcategory of “affective feelings” discussed in emotion theory.

A similar discrepancy, however, may seem to be present between two passages of my chapter where I do express my own view:

As will be seen below, some feelings, however, do not express emotions, i.e., are not affective. ([Proust this collection](#), p. 2)

All the feelings vary in affect in roughly the same way, because they all include valence in their informational structure. ([Proust this collection](#) p. 20)

The discrepancy is only apparent, however, and should disappear when the issue of valence in its relation to affect is properly addressed. In emotion theory, the relations between valence and affect, and even the existence of valence,

are highly debated. With rare exceptions,<sup>1</sup> the question is ignored by theorists of somatic, agentive, or noetic feelings.<sup>2</sup> The proposal summarized in (2), however, posits that affect will result from valence (not the other way round). Section 7 aims to explain why affect depends on the dynamics of valence throughout the domain of feelings. These relations are modulated by the dynamic conditions that prevail in the contrast between expectancy and observation in a given domain. When observation and expectancy coincide with a predicted temporal pattern - with a small stake involved-, the corresponding feelings should not involve affect on top of valence. This is the case for the feelings of agentive success that are generated in routine actions. Hence (1) holds. When you predictably overcome a minor obstacle, you don't feel particularly thrilled. When special dynamic conditions obtain, however, (acceleration or deceleration in the rate of observed change, as compared with the expected rate of change), valence will be intensely felt, in terms of vividly positive or negative experiences. Scoring an ace in a tennis game, especially if it is a rare achievement for this player, elicits in him/her an intensive positive affect. Dynamic variations of this kind also apply to metacognition, where Archimedes' "Eureka" is affect-laden, while the felt ability to respond to a memory question in a laboratory is not.

Hence there may be affect-laden feelings beyond the domain of what is traditionally called "emotional" or "affective feelings". Reciprocally, one might suspect that in the latter domain, too, affect only appears beyond thresholds of positive or negative valence, with colder kinds of feelings occupying the lower end of the continuum.

## 2 Causal information: Explicit versus implicit

Iuliia Pliushch presents my view on the role of causal relations in feeling representations as fol-

<sup>1</sup> In particular Carver & Scheier (1990, 2001) for feelings of agentive success or failure, and Stepper & Strack (1993) for noetic feelings.

<sup>2</sup> For an interesting philosophical discussion of the nature of valence, see Prinz (2010), against Solomon's skeptical stance (2003).

lows: "Due to their non-conceptual monitoring nature, feelings do not convey, but merely approximate a causal relation between internal states and actions" ([this collection](#), p. 2). It may be useful to briefly comment on this summary, in order to clarify the aim of the passage where this question is discussed as follows:

Clearly, FS does not explicitly convey a causal relation between situation, somatic markers and subjective feeling. It carries this causal relation implicitly, however, as a consequence of the control architecture that produces feelings. In an emotional control loop, a perceived affordance causes (not: is represented as causing) its expressive evaluation through its specialized sensory feedback. Emotional awareness expresses this functional relation. ([Proust this collection](#), p. 11)

What is at stake is not the causal relation between internal states and actions, but rather the nature of the causal relation between, on the one hand, the agent's perceptual belief about an external situation ("there is a bear in front of me") and his/her own bodily changes (pounding heart, trembling legs, etc.). According to cognitivists, this causal relation is not only generating a specific emotion, or in my terms, a given feeling, as most theories would accept. It also constitutes in part the intentional content of the experience of fear, or more generally, of an emotional experience. What I object to here is that the *representational* structure of feelings is not *constituted* by a conceptual representation of the causal link between an external fact and observed bodily changes. The causal relations are, rather, implicitly represented in a felt affordance through the dynamic relations between the associated, embodied cues for location, valence and intensity and the type of affordance perceived. Perceiving a bear elicits a bear-affordance (i.e., a feeling of fear of this bear). Even though, from an external viewpoint, one might say that identifying an object as dangerous has caused a disposition to act in the agent, from the viewpoint of the engaged agent, no such judgment needs to be

formed because the representation of a given affordance includes the relevant “causal” information in its associative dynamic structure. As suggested by Pliushch, being evaluative, feelings predispose to act adaptively. A disposition to act, then, is associated with an affordance, and with the bodily markers for valence and intensity constituting this affordance.

### 3 Phenomenology of feelings: Background or foreground?

Should we construe the phenomenology of feelings – the presence of a bodily change – as being in the foreground or in the background of consciousness? The article under review briefly discusses this issue (Pliushch [this collection](#), pp. 2-3): A feeling tends to be more explicitly felt as bodily when making a bodily need salient (feeling tired, feeling a pain in the joints), plausibly because its function is to motivate bodily-directed action. Although in so-called “affective feelings” <sup>1</sup> the bodily phenomenology tends to recede to the fringe of consciousness, there are cases, as Iuliia Pliushch notes correctly, where it occupies center stage – think of Proust’s report about his chest pain when learning that Madame de Guermantes just died.

It is debatable, however, that in such cases, the formal object of the feeling consists merely in the bodily changes, say, in heartbeat rate. For such states are part of an intensifying negative affordance: the loss of a friend. The notions of “meta-emotion” and “meta-feeling”, which are used by Pliushch to discuss the amplification of a feeling might be captured either in purely dynamic terms, or in a conceptual reconstruction of the situation at hand. This interesting issue, discussed in section 2.2 of Iuliia Pliushch’s comments, has connections with the notion of how concepts and feelings interact, and will be addressed in section 4.

### 4 Directedness

Iuliia Pliushch objects to my distinction between perceptions and feelings. The claim that “feelings do not have a direct sensory access to the world”, she says, relies on a meaning

of “direct” that is not compatible with the view defended by predictive coding theorists, where “directness is an absence of the evidentiary boundary” (Pliushch [this collection](#), p. 5). Being direct, then, if I understand this sentence correctly, means to lack independent evidence about the world of the kind that perception could bring. Although predictive coding offers a stimulating scheme for understanding mental function, it is open to interpretation and controversy. The functional hypothesis that perceiving and feeling are both indirect will appear highly counter-intuitive to many psychologists and philosophers.

As far as my article is concerned, I have defended the view that feelings are directly related to an opportunity, in the sense that they represent it in an immediate way, a view that has been defended by most affordance theorists. This is compatible with the claim that their informational pathway is derived from perception or memory. What may appear puzzling in my proposal is that an affordance is neither directly *perceived* nor *inferred*. It is directly *sensed*, which requires a different kind of ability. In section 5.1, I have proposed to distinguish associations from inferences, which is relevant to the present discussion. The kind of trigger for feelings are cues elicited in a currently active context, not inferences. These cues are delivered by sensory perception or by memory, but dealt with in a separate subsystem.

### 5 What are the relations between feelings and conceptual representations?

The comments in section 2.2 of my reviewer’s contribution are presented as an alternative approach to my own view, but I find myself in agreement with most of the claims, in particular with the remarks on p. 6 concerning the relations between feelings and conceptual representations. The main point concerns how one’s own goal, when acting, may influence the production of particular feelings. I discuss this issue at length in sections 5 and 6 of the article under review (Proust [this collection](#)), as well as in a recent publication devoted to action representa-

tions (Proust 2014). My position is captured by two claims. 1) Feelings – affordance sensings – can be, and indeed are usually triggered while performing a task that has been defined in conceptual terms. Cognitive affordances, in particular, are important relational properties that an agent needs to use when attempting to solve highly complex problems, for example when playing chess or looking for a mathematical proof. 2) The feeling episode, however, has an exclusively evaluative, non-conceptual content. I am aware that these two claims may easily be misunderstood. To disentangle the two, think of what agents mean to do: they mean to play chess according to the rules, or to prove a theorem. These goals, indeed, are conceptually represented, and depend on background beliefs and a sensitivity to epistemic norms such as truth and coherence, which presupposes in these particular cases an ability to represent beliefs as beliefs. Feelings of knowing, feelings of being right, and other affordance sensings are generated while the agents are conducting these higher-level forms of reasoning. They are dependent on the mental and neural activity which is thereby elicited. In other words, these feelings do not result from *a consideration* of the concepts involved, but from the dynamic features of the underlying processes. Hence, I would go farther than my reviewer, when she claims that noetic feelings are often elicited when concepts are automatically activated when forming a cognitive goal: they are also elicited when concepts are activated in a controlled way, e.g., in the process of planning what to do.

Should we conclude from this claim that heuristic processes are “contaminated by background knowledge” (Pliushch *this collection*, p. 6)? No. One should rather conclude that while the goal of a mental action is conceptually defined, the feelings entertained while acting are generated not by the concepts themselves, but by the dynamic characteristics of the processes underlying concept use. It is thus perfectly coherent to conclude that feelings have their own representational format that is not itself “infected” by concepts. A “theory of the task” is not a constituent of an affordance sensing, it is only a precondition for evaluating one’s ability in solving a task.

## 6 Serial versus dynamic properties of cognitive processes

My reviewer attributes to me a serial view of cognitive processes because I distinguish predictive from retrodictive evaluations of mental actions (Pliushch *this collection*, pp. 7-8). I do not think that this distinction commits me to serialism however. In my 2013 book, I propose that “a mind should primarily be seen as consisting of a hierarchy of control-and-monitoring loops, and their essentially dynamic interaction with the world, rather than as constituted by the successive states that emerge from this interaction”. Examples of how the dynamics at lower levels of representation can influence higher levels, and the converse, are discussed in chapters 11 and 12, where the case of schizophrenic delusions is analyzed. Hence, I have no problem with the view that low-level appraisal affects higher-level appraisals: these types of influences are part of what it is to have a hierarchy of control. This does not mean, however, that predictive appraisal and retrodictive appraisal should be conflated: they have a different evaluative function, and are based on different dynamic cues. This does not mean, either, that a concept-based judgment can easily influence an affordance-based appraisal. The difficulty of having a prolonged *strategic control* over one’s feelings (based on what one knows, as in the anagram experiment), originates in the different roles of associative cues and inferential relations between concepts in mental activity.<sup>3</sup>

Iuliia Pliushch is right, however, when observing that I stick to the distinction between feelings and their propositional re-description. From the viewpoint of action theory, this distinction corresponds to the contrast between reacting and acting strategically. I subscribe also to her remarks on p. 6, according to which goal representations might change affordance-sensings. The point is: how sustained is this change? A conceptual re-description tends to modify one’s representation of the context, and hence of one’s goals, which might either favor or re-

<sup>3</sup> This point is developed in Proust (2014). A third form of action, habitual or routine action, is claimed to pertain to a second affordance-based system with its own agentive feelings of opportunity.

duce *further elicitation of feelings* (for example, by being ashamed of having felt anger), and even inhibit the influence of feelings on action. This is the case for the participants' epistemic decisions in phase 2 of the Anagram Experiment discussed in the section 5.2 of the article. Their ability to control their feelings, however, cannot resist time pressure and/or divided attention in phase 3.

On the view that I propose, feelings can only be sustainably modulated by having other feelings replace them. There are both automatic and strategic ways of enhancing one's feelings through other feelings (see [Proust 2014](#)). Feelings can easily be enhanced by enriching the associative representations constituting an affordance. Deliberately suppressing them, or reorienting them to new targets, however, is very difficult (as rejected lovers know all too well). The Confucian moral practices offer a very good example of a strategic attempt to train new moral feelings in followers (see [Reber 2013](#)). As Rolf Reber shows in his fascinating analysis of what he calls critical feelings, strategically redirecting one's feelings to new targets can only be performed by manipulating the fluency of one's own re-descriptions and conceptual rules for acting morally. In other terms, the agents need to be trained until they entertain feelings of ease of processing (i.e., feelings of fluency) when activating target concepts and inferences, rather than merely trying to immediately subsume their own initial feelings under critical concepts.

## 7 Self-deception and metacognition

Iuliia Pliushch finally makes an interesting suggestion: when self-deception occurs, the believer senses a metacognitive feeling of uneasiness, indicating that her underlying belief-forming process is faulty. This suggestion offers an account of the tension that arises while forming a belief on the basis of motivational, rather than evidential grounds. It would be wrong to interpret her proposal as the claim that finding faulty a belief, or a belief-forming process, involves an appraisal of the content of the belief, or of the kind of process that has been used to form it. As I understand her, Pliushch is rather claim-

ing, as psychologists and neuroscientists of metacognition do, that the mind is able to detect fault in the dynamical properties of the underlying processes. Pliushch argues further that, in contrast (she claims) with my own proposal, monitoring not only occurs "before or after a cognitive process, but also *during it*". There is no real conflict, however, about this claim. Presence of intermediate monitoring depends on the temporal extension of the mental action considered. When confronted with perceptual or memorial uncertainty, there is only control-based, mainly unconscious, intermediate monitoring; intermediate becomes prominent, however, in prolonged, effortful actions, such as problem solving ([Ackerman 2013](#)). I agree with Pliushch, however, that representing a mental action merely in terms of a starting and end points misrepresents the facts: it is based on a serial view that does not fit the dynamic character of metacognition (as already discussed in section 7 above). The evidence presented in [Proust \(2013\)](#) suggests that retrospective evaluation is based on the underlying dynamic of the *whole* action (the rate of accumulation in favor of a dominant response, as well as the dispersion of the neural responses), while predictive evaluation is based on the dynamics elicited by the command for this action, as compared with a stored standard (the complexity of the feedback used is addressed in [Koriat et al. 2006](#)). An epistemic evaluation, however, has two functions: stop the action, and encourage its continued performance, hence the role of polar valence in motivating action, which is reflected in the bi-partition of evaluations in two classes. This is in close agreement with how predictive coding, as any other theory of emotion and action, describes the facts.

Does predictive coding offer *new* insights on metacognition? The concept of "transition probabilities" mentioned by Pliushch, is shared by all theorists working on neural dynamics, as well by theorists of recurrent feedback; the concept of free-energy minimization, related to the minimization of surprise, seems *prima facie* to be consonant with [Rescorla & Wagner's \(1972\)](#) well established model of reinforcement learning. There is an internal connection

between free energy minimization and the evaluation of one's own uncertainty, because it is adaptive to predict one's chances of being incorrect, and hence avoid surprising failures. The concept of free energy, however, is no more equipped to provide any mechanistic account of brain function as any other evolutionary theory. "It is nothing more than the principle of least action applied to information theory", Friston recognizes (Friston et al. 2012). Indeed a prominent problem remains to be solved, concerning how priors vary as a function of task demands and of environmental statistics. Unpacking the principle across adaptive time-scales and survival contexts is indeed a complex future goal. Ways in which predictive coding might enrich the analysis of metacognition with new descriptive, operational tools or new functional explanations remain, then, to be specified.

Pliushch claims further that a first step in the proposed metacognitive theory of self-deception consists in recognizing that metacognitive feelings must be "extended to unconscious belief forming processes". If what is meant is that the dynamic properties that elicit feelings belong to such processes, there is universal agreement on this claim (see the so-called "cross-over principle" between unconscious heuristics and representations (including beliefs) and conscious feelings in Koriat 2000). What is meant, then, by the suggested "extension" is unclear. If what is meant, rather, is that the feelings themselves might be unconscious, this is a possibility that is taken seriously in studies of metaperception in blindsight patients (Reder & Schunn 1996). The very existence of such feelings complicates the phenomenologist's task. A second step is claimed to consist in "clarifying the representational content of tension". Although more detailed work needs to be done in order to better understand the contrast between perceptual and conceptual fluency, intuitivity is generally identified as a variety of what experimental psychologists call "feelings of fluency". One suggestion is that what creates feelings of tension or dysfluency in self-deception is not merely the representation that "the cognitive process violates some important goal representation", but rather, that it violates an implicit heuristic of

self-consistency, as discussed in Koriat (2012). Another suggestion is that tension has to do with the realization that the effort initially planned for a current task needs to be upgraded, which is a source of anxiety (Ackerman 2013). In summary: belief-forming processes are known to elicit metacognitive feelings. It remains to be shown how a metacognitive analysis of self-deception might enlighten philosophical and epistemological views about it. Self-deception is a good test case for making the point that conceptual-inferential processing also conveys non-conceptual information.

## 8 Serial versus dynamic properties of cognitive processes

As noted in the title of an article by Koriat et al. (2006), the relations between control and monitoring in the production of metacognitive feelings are very "intricate". Iuliia Pliushch's insightful comments have initiated what I hope to be a useful clarification of another aspect of feelings (whether metacognitive or not): their relations with propositional thoughts. Feelings elicited by tasks that are conceptually characterized do not become *ipso facto* conceptually penetrable: this difficult, unintuitive claim is often misunderstood and resisted for wrong reasons, which does not mean that it would resist any reason! The objection related to serialism was odd, given my own interest in the dynamic properties of the mental processes as offering a source of information that stable propositional properties of mental contents cannot provide. Once prediction and post-evaluation are identified as two major functions in metacognition, it is indeed important to emphasize that metacognitive processes of each kind are dynamic, and rely on various types of re-afferent feedback. Epistemic decisions, however, once made, are discontinuous by design, which turns the pre-decisional confidence level into a final evaluation that triggers or inhibits the corresponding action. Hence, a contrast must be maintained between how to select a goal and determine the level of effort needed to achieve it (i.e., a control command), on the one hand, and monitoring progress toward the goal, on the other hand.

Each form of metacognition elicits feelings. This does not mean that the two functions need to be serially executed: for long, effortful tasks, agents need to frequently revise their level of effort and of success expectancy, by monitoring over time their progress through associated heuristics and feelings.

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