Epistemic Appreciation

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Belief formation is holistic and abductive in its nature, and so it is supported by morphological content which involves both of these mechanisms. Dynamical cognition based morphological content provides perspectival structure of belief to the target relevance area searching non-dimensional punctual referential-intentional input to the cognitive system, thereby expelling the content structure from the supposed atomistic representation. Given that morphological content is evidence for belief formation, it supports propositional justification or an epistemic agent's having justification. But such an epistemic agent is not yet being justified in his belief. In order for this to happen, the morphologically operative morphological content as the evidence for belief formation, succeeding at its several levels, needs to be appreciated. Appreciation of evidence, i.e. of morphologically operative morphological content, can be then taken as the reason for belief formation, being thereby shifted into the space of reasons from the space of causes. In other words, the epistemic agent is being doxastically justified in his belief once as he experiences the becausal power of evidence in belief formation. This requires chromatic illumination supervenience upon the morphological content evidential belief formation. Chromatic illumination supervenes upon the evidential basis phenomenology, thereby enabling appreciation of evidence for belief formation, the epistemic agent being pulled in the appreciating direction, and being finally gripped to recognize that evidence as the reason for belief formation. The need for chromatic illumination being joined to belief formation comes clearly out in the case where this does not happen. Partial zombie with his lack of chromatic illumination experiences evidence for his belief as coming out of the blue, so that obviously he does not appreciate it as reason for belief formation, thereby lacking access to doxastic justification phenomenology.

1. *Belief formation is holistic and abductive in its nature, and so it is supported by morphological content which involves both of these mechanisms.*

Classical computational model of mind, so called language of thought (Fodor 1975) offered a promising venue by proposing atomistic presentations over which exceptionless rules proceed. In this manner the approach stays tractable and programmable, and hopefully may be applied to such cognitive areas as belief formation. However, Fodor (1983, 2000) soon realized that such an approach is appropriate for sensory and lower cognitive matters, such as that of early vision (Marr 2010), while it is not effective for higher cognitive areas such as the one involving belief. The reason is that these higher cognition involving matters display their specificity by being holistic and abductive, which both goes against the classical model. Belief formation namely possibly involves the entire cognitive system, each corner of it, in order to match the incoming information, always imposing a challenge to the system, with the task of determining the area in that background system where that information need to be appropriately settled. In the holistic environment of background information possessed by the epistemic agent, the interpretative move does not follow deductive or inductive rules. In order to settle the information which is incoming to the system, this one rather engages in proposing abductive hypothesis to the best explanation, given the existence and structure of the background cognitive system. There was resistance to this proposal though in the hope that one can stick to the classical tractable computational model of mind in the area of higher cognition and not just in the lower sensory modularity involving matters. That is the proposal of massive modularity (Carruthers 2006), according to which higher cognition may be interpreted as piling up of the tractable modular mechanisms. This staying with the classical computational model of mind approach was supported, among other things, with the claim that complex higher cognition architecture developed in an evolutionary manner through the addition of always new modular mechanisms. If such is the case of course, it is questionable whether holistic and abductive character of belief formation may be upheld at all. The challenge of the frame problem elucidates this: Just what would be the constraints that are needed

for tractably singling out the relevant point according to the exceptionless rules based computational approach? And indeed, in order to achieve this, the perspective needs to be changed.

Cognitive structure of explicit conscious presentations and exceptionless logical rules proceeding over them first of all needs to recognize the background cognition constitution and support. This succeeds through the endorsement of the dynamical cognition explicatory proposal and through the morphological content as the background cognition constitutive ingredient. Morphological content is namely the information which is there in the cognitive background of the epistemic agent, and which exercises its impact upon the occurrent content formation, in an indirect manner.

Morphological content (Potrč 1999) is both holistic and abductive; it has these mechanisms ingrained into it. It is holistic because it involves anything that the cognizer knows, although not in an explicit but mostly rather in a purely dispositional manner. There is an almost unsurveyable quantity of the information which is dispositionally present in an epistemic agent's cognitive background, of which the agent is unaware most of the time. But once as the new input information comes to the cognitive system, this one has the job of positioning it in a relevant manner into an area where it fits, so that it can engage into further needed moves following that recognition. The overall importance of the incoming information for the epistemic agent's situation and engagement needs to be evaluated as well. In other words, the system has to form a hypothesis to the best explanation of the incoming information. This best explanation of course aims at the relevant categorisation area settling of the input, and besides to this, it as well needs to consider all the potentially relevant angles of the holistic background system that may support the relevance of that information. The abductive formation of the hypothesis to the best explanation concerning information incoming to the cognitive system happens to be a complex, holistically dynamic venue.

As opposed to the classical computational model of mind, morphological content substantially involves both holism and abduction, and in effect it functions in such a manner that the mechanisms proper to both are ingrained into it. Morphological content namely is holistic by its very nature, in opposition to the atomistic content structure of representations proclaimed by the classical computational model of mind. And morphological content, in order to be effective in an epistemic agent's cognitive economy, needs to involve abductive mechanisms that hopefully ultimately lead to the best explanation of the information incoming to the system, as seen from the epistemic agent's current perspective and engagement. In opposition to the modular mechanisms proper to the sensory lower cognition area, belief formation belongs to the higher cognitive, holism and abduction involving epistemic concerns.

2. Dynamical cognition based morphological content provides perspectival structure of belief to the target relevance area searching non-dimensional punctual referential-intentional input to the cognitive system, thereby expelling the content structure from the supposed atomistic representation.

A cognitive system needs to constantly decide about what is relevant in the flow of the information which it encounters. A cognitive or epistemic agent is bombarded with abundance of data at each single moment, some of these coming in a real momentary manner, and others extending their influence over a longer stretch of time. Besides to this, there is a customary simultaneous intertwining of several kinds of information. Just as an example, take a quick look at my current position, while I am typing this text into the word processor, being somehow attentive at each stroke of the finger upon the keyboard and at the sentence flow which gets thereby construed. I also have in my mind the overall project I am working on and the means how to achieve it. In the meantime, I am as well attentive at the possible typos that I produce while typing, quickly improving them in many cases. But while being engaged in my principal task in this manner, I am listening to Bruckner symphony in the audio background, and try to follow and reconstruct its flow, retaining and anticipating the musical sequences, in a very similar way as I do this with the paper composing sequences. While this happens, I am carefully handling my keyboard typing

with my fingers, feeling their impact and hearing the strokes of their key impacts, in auditory sequences. I also take a look at the green area outside my window, noticing a slight movement of leaves, and really just slightly changing illumination. I perceive this illumination as something persistent despite its just mentioned constant changes and fluctuations. Of course I also notice the floor of my room window leading to the outside view, several objects that are there: monitors, computers, chairs with their different shapes, tea kettle. Then, I feel being seated in my chair while typing, sensing my body experiencing its impact. And I also feel the general experience of my body at this time, such as not being hungry or cold right now. I could go on with description of this really quite static actual environment of mine, which is quite different to the situation where I try to cross a busy road. Various forms of information are coming to my system all the time, and this is also in value for the time of my dreams, or even dreamless night periods. All this means that my background cognitive system is enormously rich and constantly dynamically engaged. It also has to decide all the time what is important in the abundance of incoming information, what needs to be retained closer to the hopper and what should perhaps be still retained but without such urgency, and what to better forget. Obviously, my background cognitive system is dynamic and all the time changing matter, which needs to be used in order to extract relevant information at this very moment or in a broader timely period. Morphological content with its holistic and abductive characteristics is the appropriate basis for this task.

But how should the structure of this content be assessed? According to the classical computational model of mind, the structure of content is in the presentation, which can then enter into relation to other presentations according to the exceptionless rules proceeding over these. But now with holistic and abductive adjusted morphological content, the incoming input information to the system does not come with an entire presentational structure. The cognitive economy rather requires that the incoming information to the system is something such as a straight non-dimensional point, which needs to encounter its settling place in the multi-dimensional rich environment of the morphological content. The incoming information, one may say, is something like Kripke (1980) rigid designator. It comes upon the morphological scene without any descriptive or perspectival senses-providing burden, getting the abundance of perspectives from its insertion into the rich background morphological content cognitive landscape. The input information is in this way interpreted experientially, substituting thereby the Kripkean rigid designator externalist push with the zero-dimensional referential-intentional input to the rich background cognitive system. Experientially and psychologically, this improves externalist rigid designator explanation attempts.

Horgan and Tienson (1996) already introduced dynamical system as the appropriate connectionist models inspired and dynamics endorsing mathematical approach to cognition, substituting the classical presentations and rules way to go with submerging the just described punctual zero-dimensional Total Cognitive State searching point onto the relevant area in the dynamical multi dimensional cognitive landscape. Morphological content certainly has its place in the just described setting, especially in the case as one wants to deliver an account of belief formation. The perspectival structure related to a Total Cognitive State is thereby expelled from the presumed atomistic presentation, up into the background morphological content dynamical system landscape. The perspectives or senses are the illuminative effects of the background cognition morphological content into the local area of which the referential-intentional zero-dimensional point searching for the relevant adjustment gets positioned.

Despite the constant dynamical variability of the background cognition morphological content, due to the persistently incoming information according to many involved layers and various dimensions, the path of a specific kind of incoming information to its settling point at the landscape should be predictable, although in a vague manner. The path of a certain kind of input thereby follows a designated itinerary, just like paths in the wild stay approximately the same despite their slight transformations through abrasive terrain and growing or receding weeds. As well, if the path is taken repeatedly, this frequency

will be mirrored in its salience and breath. Given that the terrain of the landscape may change, and as well the frequency of the path being taken, it is still important that there is some similarity retained in the changing circumstances which guarantees bringing of the relevance searching referential-intentional zero-dimensional incoming information point to the area of destination at the landscape. The retaining of similarity in these paths perhaps echoes the similarity of meanings in the path to their destination (Quine 1960). Just that the action is now in the area of the background cognitive morphological content involving the meaning structure, if this word should be used. The path of the input information to the relevant area at the landscape retains its vague similarity, thereby circumventing the rigid classical computational model of mind frame problem woes.

3. *Given that morphological content is evidence for belief formation, it supports propositional justification or an epistemic agent's having justification.*

As I form belief that the cup is on the table, this is supported by the evidence that such is the case. The input to that belief formation may be perceptual in the widest sense. But the evidence that these are cup and the table, and that there is the positioning of the first being upon the second one, has its source in the background cognition morphological content which allows me to categorize and identify the just mentioned items and their relations. In a fraction of the moment the incoming perceptual input information travels the path taken by the cup categorization settling and the rest. My morphological content evidentially supports categorization and recognition of the incoming data, searching as well for their relevance in respect to the overall situation in which I find myself, anticipating the most appropriate succeeding moves, if any.

Morphological content is thus the evidence for belief formation, and it justifies the belief in a propositional manner. It gives its sense to the evidentially supported proposition that the cup is upon the table. Through this support, the epistemic agent is in position of having justification for the given belief, in an objective manner.

4. *An epistemic agent who has propositional justification however is not yet being justified in his belief.*

Although the epistemic agent has justification for the belief that p (That the cup is on the table), he is not yet being justified in the belief supported by the proposition that p. Being justified namely involves that agent's epistemic normative engagement while having the belief in question, and it is called doxastic justification. The difference between these two cases of justification, as we elaborate, is in that the evidence for belief is registered, perhaps just in a causal manner, in the case of propositional justification, but that it is normatively appreciated by the epistemic agent in the case of doxastic justification. This is the transition that we are about to explain, with the key positioning of epistemic appreciation in it.

5. *In order for an epistemic agent being justified in his belief, the morphologically operative morphological content as the evidence for belief formation, succeeding at its several levels, needs to be appreciated.*

The first step in realizing the need for the switch to doxastic justification is in accounting for several levels of belief formation. This shows that the evidence in question is not just objective, as might be presupposed upon the basis of its support from the part of the morphological content. By the way, morphological content is a very subjective take basis for a reflection with the experiential world interaction.

In order to see what is involved into belief formation, we may start with its teleological goal, its truth. (Henderson, Horgan, Potrč and Tierney 2017) Forming a true belief is an epistemic goal for an epistemic agent. True belief may be understood as reliable one, formed on the basis of reliable mechanisms leading to it that is. But there is not any engagement of the evidence in this. So we can take means-to-ends steps

in the hierarchy of belief formation. The step which underlies reliable belief formation is that of objective evidence. But now notice that the objective evidence needs to have its source in the epistemic agent's subjective sensitivity involving evidence. This one supports the upper level objective evidence in belief formation, through a means-to-ends teleological structure. Ultimately, there is experiential subjective evidence upheld by the epistemic agent, consisting in all-in ultima facie epistemic seemings towards the result that p, which supports the subjective epistemic sensibility belief formation level.

In this means-to-ends hierarchy of belief formation levels, one can register teleological venues at the upper level and the ones closer to the epistemic virtuousness at the lower levels. This shift towards an account of evidence involving virtuous ingredients brings us closer to normativity and to epistemic agent's immediate engagement. The lower levels of the just indicated belief formation, following this epistemic engagement and phenomenology coming along with it, bring us away from the purely propositional justification of the formed belief, in direction of its doxastic justification.

6. *Appreciation of evidence, i.e. of morphologically operative morphological content, can be taken as the reason for belief formation, being thereby shifted into the space of reasons from the space of causes.*

There is another way to account for the shift from propositional justification to doxastic justification in belief formation. Propositional justification of a belief relies upon the evidence in an objectivist manner, relying upon the second objective evidence means-to-ends support in belief formation. The evidence, as we said, is that of morphological content, and as we have elaborated it earlier, it involves holism and abduction, far away from atomistic presentations and exceptionless rules proceeding over these. Now, the crucial point for the possibility of shift from propositional justification to doxastic justification is in that the evidence should be appreciated, i.e. normatively evaluated by the epistemic agent. In other words, the epistemic agent does not just need to have evidence for the belief that p. He needs to form his belief because of this evidence, thereby shifting the evidential support from the space of causes to the space of reasons. The becausal move of forming the belief upon the evidence, for the epistemic agent, shifts him into being justified, into the space of reasons supported doxastic justification.

Morphological content should not just be taken as evidence at face value, but it should be understood in morphologically operative manner, as the precondition for the epistemic agent being normatively justified in the belief that p.

7. *In other words, the epistemic agent is being doxastically justified in his belief once as he experiences the becausal power of evidence in belief formation.*

Doxastic justification of the epistemic agent's belief comes upon the scene through appreciation of the morphologically operative morphological content figuring as evidence for belief formation. This move also has to do with the phenomenological experience proper to the epistemic agent. Appreciation is normative and it comes through by the help of phenomenological experiential engagement.

8. *Being justified requires chromatic illumination supervenience upon the morphological content evidential belief formation.*

Appreciation needs to supervene upon the morphologically operative morphological content evidential belief formation support. This is the precondition for the epistemic agent to be justified and not just to have (propositional) justification.

Chromatic illumination (Horgan and Potrč 2010) comes upon the stage here, as the mechanism which brings the evidential support unto the phenomenology or consciousness of the occurrent content. Chromatic illumination is namely the mechanism which projects the effect of MOMC (morphologically operative morphological content) upon the occurrent content scene, illuminating its phenomenology

through it, without that it would be there present in a fully explicit manner. Chromatic illumination shows that there can be an important epistemic effect of the background evidence upon phenomenology or consciousness of the occurrent content without that this evidence would be fully explicitly presented in that content. Rather, the MOMC evidence gets appreciated through chromatic illumination normative and phenomenologically experiential support. So, through appreciation production, chromatic illumination is basic for a belief's doxastic justification.

9. *Chromatic illumination supervenes upon the evidential basis phenomenology, thereby enabling appreciation of evidence for belief formation, the epistemic agent being pulled in the appreciating direction, and being finally gripped to recognize that evidence as the reason for belief formation.*

Through chromatic illumination, the epistemic agent finds himself in the space of reasons, superseding the just evidential objectively propositional space of causes. Appreciation, as we just hinted at, is both normative and phenomenologically supported. Appreciation supervenes through chromatic illumination upon the phenomenology of the occurrent content evidential basis.

Now the evidence in belief formation appears as reason for the epistemic agent. Appreciation of the evidence as reason enables the epistemic agent to be pulled into direction of endorsing that reason, and consequently to be gripped by that reason (Horgan and Timmons 2018). This is when the epistemic agent is really being doxastically justified.

10. *The need for chromatic illumination being joined to belief formation comes clearly out in the case where this does not happen. Partial zombie with his lack of chromatic illumination experiences evidence for his belief as coming out of the blue, so that obviously he does not appreciate it as the reason for belief formation, thereby lacking access to doxastic justification phenomenology.*

One may still object that appreciation and doxastic justification are not what really counts in belief formation. One may simply functionally react to the situation and do one's epistemic job in that manner.

But that would be a case of a partial zombie which we would rather not endorse. Partial zombie experiences his reasons as coming out of blue, without that they would be appreciated. A husband following his wife's orders to bring down the trash would be a case in point. That one just reacts, without appreciating reasons for what he does.

Laughing at a joke without knowing why would be another instantiation of the partial evidential zombie, which would function without chromatic illumination and the consequent appreciation of reasons. The clairvoyant Norman (BonJour 1980) would be another case of such a partial zombie.

There is no appreciation of such a partial zombie; following your orders he is in fact dissing you, i.e. ignoring your reasons all in seemingly obeying them. Such partial zombie lacks the potential doxastic justification of his beliefs.

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