MORPHOLOGICAL INTENTIONALITY: TRACING THE UNCONSCIOUS TRAJECTORY OF FREE WILL

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***Abstract**: Neurophysiologist Benjamin Libet's EEG experiments tracking the temporal occurrence of brain events leading to an endogenous voluntary action significantly demonstrated that the subject becomes conscious of her intention to act later than the neural activity in the brain signaling the impending action. This finding led Libet to extrapolate that conscious will is not the bona fide causal source of voluntary acts- it merely serves to control the final motor outcome. All voluntary acts are causally originated in unconscious brain processes. The idea proposed in this short piece of work, however, is that many of our regular acts are done without online conscious thought in which case belief-desire states may well be operative subliminally. The attention needs to be directed to the causal role played by intentional states lying underneath the conscious threshold as a well-entrenched disposition. I argue these intentional states are morphological rather than unconscious in nature, borrowing the term from Horgan and Timmons. They contend in a different context that moral judgment (comparable to the volitional act) is a direct causal outcome of a set of embedded moral rules (comparable to automatized intentional states,) operating morphologically so as to lend their dispositional content to the final product without being represented as an occurrent intentional state although they are capable of so becoming.* [1]

I. From Unconscious to Conscious: A Giant Leap from the Dark?

In the early 1980s Benjamin Libet conducted a time-tracking experiment to closely follow how freedom of will functions in fully self-initiated, voluntary acts. He suspected that there would be a gap between the cerebral activity underlying the volitional act and the subjective awareness of the volition, that is, the conscious intention to act. What warranted him to make this assumption was his observation in a previous experiment now famously known as the half-second delay experiment that a tactile sensation could be simulated on the skin by applying electrode-generated pulses to the somatosensory cortex but only after half a second of continuous stimulation. The most significant finding of this experiment was the rather puzzling discovery that consciousness related to a sensation appears half a second after the application of a stimulus to the brain. Considering that neural signals can take less than a millisecond

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to cross a synapse and certain stimuli, say, the auditory stimuli may take about 8-10 milliseconds to reach the appropriate region of the brain, such belated appearance of the phenomenological consciousness prompted the question whether we have all along been trapped in the illusion that whatever we see or feel or touch happens in real time when the fact of the matter is, the conscious awareness of the stimuli's impact on us is systematically anachronistic in nature. Now keeping in view this earlier finding Libet chronologically followed the occurrence of the neural activity (via the channel of EEG), the sensation of willing (via the subjects' recall of a clock position), and the final motor act, a flick of wrist, (via an EMG-prompted sensation on the skin prompted by a stimulation in the sensory cortex). His experiment arguably showed that the conscious experience of willing[2] which he variously referred to as 'the first awareness of the urge to move' (Libet, 1983, p.624), 'conscious wish or intention (to perform the act)' (Libet,1999, p.49) or 'initial awareness of wanting' (Libet, 1985, p.532) comes about 350 milliseconds later than the neural activity in unplanned voluntary acts and in the case of preplanned voluntary acts it follows the neural activity by an average of 800 milliseconds.

The extrapolation Libet had drawn is widely known and has been the subject of much controversy: all conscious voluntary acts have an unconscious origin and the causal role that the act of willing is assumed to play is, therefore, taken over by brain processes and the reason why the conscious experience of willing appears in the phenomenology is to endow the agents with what Libet refers to as a veto power, either to permit or prevent the final outcome. Libet's conclusion gives an indication that unconscious cerebral events are the primordial causal initiator of all endogenous, volitional acts and conscious will, being merely the secondary outcome of the prior unconscious initiating process, is causally impotent to initiate an act. And on top of that this conscious awareness of the intention to act coming too late on the causal pathway, merely 100 milliseconds before the final volitional act weakens its candidature for the causal initiator of the physical act. Libet underscores this position of conscious intention-in-act or conscious will to act to claim that conscious will is not the bona fide cause of volitional acts; it merely has what he calls veto-power, that is, it seemingly can play a role in deciding whether or not to act. On his theory then free will has a circumscribed role since in the manner in which he interprets his finding

[2] There is some vagueness in the way Libet uses the term conscious will or conscious intention. Is it the first-order conscious intention or the higher-order thought or awareness concerning that intention as Libet uses expressions that embrace both of these possibilities? However, if we take at the face value Libet's referring to conscious will by the expression 'initial awareness of wanting' then the entire project spearheaded by Libet to demonstrate that conscious will does not initiate an act but only serves to determine whether or not to carry out the act becomes vacuous because the maiden, first-order conscious intention may not be the same as its awareness which may be regarded as a higher-order thought following the maiden consciousness; the conscious awareness of an intentional state cannot be said to cause an act. Holton (2004, p.220) conveys the need to be clear about this subtle demarcation between a first-order consciousness and its follow-up higher-order consciousness which makes the original conscious state conscious.

evinces that intentional states are no more than pseudo-causes. On his account of freely voluntary acts then intentional states play a mere second fiddle. This is how Libet draws implication for free will from his scheme of volitional acts:

> …cerebral initiation even of a spontaneous voluntary act… can and usually does begin *unconsciously*. … Put another way, the brain "decides" to initiate or, at least, to prepare to initiate the act before there is any reportable subjective awareness that such a decision has taken place. … If the brain can initiate a voluntary act before the appearance of conscious intention, that is, if the initiation of the specific performance of the act is by unconscious processes, is there any role for the conscious function? … I propose that conscious control can be exerted before the final motor outflow to select or control volitional outcome. The volitional process, initiated unconsciously, can either be consciously permitted to proceed to consummation in the motor act or be consciously veto.." (Libet, 1985, pp. 536-37)

Commentators of Libet's experimental work on the origin of voluntary, endogenous acts have pointed at the dualistic undertone in his conclusion. If the hardcore neurobiological processes originating in the brain of which one cannot be aware, which is Libet's construal of the *unconscious* initiation of a voluntary act, are the primordial source of self-initiated acts, then intentional states like willing, desiring, believing cannot any longer have a pride of place than what is supposed in a folk-psychological vein in the causal chain leading up to an act. Libet seems here to propose a dualist scheme of mental causation, bordering on epiphenomenalism in which intentional states are but a spin-off of the brain processes which cannot be ascribed with causal power. In fact, psychologist Daniel Wegner also holds a similar view that conscious will plays no more a role than endow us with an authorship emotion of sorts; as a matter of fact it cannot claim to be the causal source of acts by merely satisfying the priority criterion of causality, that is by merely occurring before the act. Conscious will serve as what Wegner calls as the 'mind's compass', giving us a panoramic view of what is happening in the mind and the body.[3]

Dualistic or not, Libet's use of the term unconscious is not definitive. It is likely that he actually has in mind processes that Searle would classify under the 'nonconscious', brain processes that cannot have any conscious, online, occurrent representation. Otherwise he would not have been in denial about the causal efficacy of conscious will. But unlike Searle he does not make suchlike clear categorization of the unconscious processes of a complex system like the human brain. What he means by the term is that which cannot represent itself as a conscious experience, and only brain processes merit such description, but having said so he does not make any discrimination between the preconscious, the subconscious, or other possible nonreportable unconscious processes, the last mentioned type of unconscious being the non-mental unconscious proper and which should be the actual referent of Libet's

[3] Excerpts of interview with Wegner on his views about free will and the role of consciousness for acts from Blackmore (2005, p.254 and p.256).

unconscious (Libet, 1985, p.536). But by not making any such categorization of the phenomenon of unconscious, Libet still leaves open the possibility of unconscious intentional states directly causing the acts of the kind he studied, which can either unfold as conscious experience or as I would argue in the next two sections, can exist as dispositions embedded in the cognitive architecture, as morphological, offline intentional states that lead to conscious behavior while operating in an automatized fashion and are capable of being manifested as a conscious representation, though they do not necessarily have such occurrent representations.

II. From Unconscious to Conscious: The Potential becomes Actual

In the preceding section we saw how the modus operandi of free will can be circumscribed by driving out the prospect of an unconscious or rather embedded dispositional-intentional origin of conscious intention-in-act and behavior. On this account of free will an unconsciously initiated mental process leading to behavior is kept out of the bounds of free will. But if we wish to accommodate a bigger picture of free will, the various instances of unconscious mental causation appear quite compelling indeed." Searle (2001, 2004) put before us concrete cases of how certain acts are rooted in unconscious mental states. Holton (2006) points out that voluntary acts, if done quite frequently so that they become entrenched in our cognitive system do not require a conscious rationalization in the form of planning and judging for their execution, but occur rather in an automatized fashion. Before setting out to give an account of unconscious intentional causation, however, we need to be clear about the boundary lying between the unconscious and the nonconscious.

Searle in his book *Mind: A Brief Introduction* (Ch.9, "The Unconscious and the Explanation of Behaviour") classifies four different levels in which the unconscious feature of the brain processes can be described: they are the preconscious, the repressed unconscious, the deep unconscious and the nonconscious. On Searle's account, the first two categories are distinct from the latter because they are unconscious mental states proper by virtue of their capacity to cause conscious mental states and behavior while the latter two classes of unconscious are certain brain processes not amounting to a conscious, reportable mental state. Hence in agreement with Searle it seems sensible to bracket out the nonconscious and the deep unconscious as they do not apparently have conscious mental states as their successors. Let us give some illustrations of the nonconscious and the deep unconscious so as to be in a position to see why they have no bearing upon conscious intentional states and acts. Nonconscious, as the name suggests, are neurobiological processes that are characteristically incapable of having an ensuing mental reality. As Searle points out, these are brain processes that despite controlling mental lives do not count as mental phenomena; their sole purpose is to create background effects, as it were. Are we aware of an increase in our blood sugar level? Does the hormonal secretion at the synaptic cleft give our mind any telltale sign? Are we conscious about visuomotor control? No, because these are physiological processes that are categorically unconscious and never get translated into consciousness about them (Searle 2004, p.241; Blackmore 2004, p.44). Now while the nonconscious states

exclusively refer to the lower level states grounded only in the brain having no mental reality, there are, Searle points out, other unconscious states that though results in a mental representation, yet like the nonconscious they cannot be brought forth as conscious states. Searle's original example of such unconscious states which he designates as deep unconscious is the children's unconscious application of the computational rules of universal grammar while learning language (2004, ibid.). I, however, do not see how on Searle's account deep unconscious is any different from nonconscious because given Searle's position as a biological naturalist, he would certainly admit that the deep mental unconscious is the higher-level system feature of the lower-level neurobiological states; and if these unconscious states that sprang up from such physiological processes never ever see the broad daylight of consciousness, then both remain on the same footing. [4]

The preconscious and the repressed unconscious of Searle however seem worth the label of subliminal intentional states proper because they are such that our cognitive system decides that they better remain buried, but should the necessity arise they can produce their conscious offspring in the form of behavior and thus the intentional states that somehow crept into the hidden realm of mind resurface. To turn first to the preconscious as defined by Searle, these states are like standing intentional states that are operative in much of our waking-life acts. If I have a sustained belief that catching the sight of a person in the locality considered a jinx at 7 AM every day when I go out in the portico to get the newspaper will bring me bad luck for the day, then no matter how groundless the belief may be even in my reckoning, I would rather make every effort, often unthinkingly, to avoid the time although it will be way too difficult for me to do so owing to certain external conditions such as the person sits in his balcony across from my portico between 7 AM and 7:30 AM, the newspaper delivery boy arrives at 6:50 AM sharp and to further add to my woes, I am a late riser, mostly not waking up until 7 o'clock. So ever since I formed this belief I will show tension before I go to sleep, keep my mobile phone on whole night because the in-built alarm can only work when switched on and so on and these activities may well become part of my habit to the extent that I may forget the initial purpose of regulating my behavior that way. So, the preconscious variety of unconscious as we can see always finds a conscious outlet. So is the case with the repressed unconscious intentional states which also are causally potent to be manifested in behavior but rather remain conveniently buried unlike the preconscious intentional states which are in a way beneficial unconscious states which cause and guide our behavior to optimize our everyday interface with the environment without making much clamor. Now it is this particular functional feature of the preconscious that I find very compelling as an evidence of unconscious intentional causation which Libet perhaps mistook for pure neurophysiological causation with respect to the arm movement kind of self-willed but

[4] Searle has later conceded that since unconscious intentional states exist only insofar as they are capable of causing their conscious transmuted forms, there can in actuality be no deep unconscious mental states because they have only a neurophysiological structure and no conscious expression to boast of (2004, p.248).

regular activity and got fodder for his dualistic hypothesis that subjective states related to volitional acts are all epiphenomenal in nature.

Susan Blackmore (2004, pp.45-46) brings out two distinctive ways in which unconscious intentional states can function which will be of particular interest to the advocates of unconscious mental causation. She draws attention to the fact that there happen to be mental states forming the know-how underlying certain acts that relapse into the unconscious mode only to ensure that the acts they once accompanied in their conscious prime are performed effortlessly. So there are acts such as riding a bicycle, moving a mouse or keyboard, skiing or making postures while doing yoga, that is, acts mostly requiring the engagement of motor skills, that were once done consciously, but once the body has adapted itself to these acts and the acts have become automatized, the mental states accompanying them no longer feel the need for them to be present there on every individuals occurrence of these acts. Searle (2001) in the same vein invokes the highly automatized and hence optimizing moves found in the athletes highlighting the role of unconscious intentional causation. The winning moves of a tennis player or a sprinter, if we look closely, could not have been made in the first place if they were not gestated and planned in advance in anticipation of all kinds of possible outward stimuli that might come their way. That such is actually the case is vindicated when we see the runner taking his foot off the mark even before the gun goes off or the tennis player positioning her arms and legs even before visually registering the flight of the ball. So, what exactly happens here according to Searle is the following:

> In both cases the subject, as a result of repeated training and practice, has well-established neural pathways that are activated by the perceptual stimuli prior to the onset of consciousness. To put the point crudely, the subject is playing tennis or running a race of his own free will, and if he is going to be any good at these activities his body must be able to move in certain key situations before he is consciously aware of the stimulus that triggers the movement. … the movements depend on my having a conscious prior intention (Searle, 2001, pp.291-92).

So in both Searle's and Blackmore's illustrations we find a picture of intentional causation that is not online yet the acts take place successfully courtesy of the once conscious prior intentions choosing to go offline, to the mode of a potential to become actual whenever satisfying conditions in the form of internal as well as external stimuli arise. Searle with his view of mental states and processes as a higher-level, causally emergent system feature of the brain capable of downward causation (a position known as Biological Naturalism) will certainly be in a better position to explain why in Libet's study the neural activity occurs before the conscious intention to perform the hand movement. The brain activity that occurs before the conscious will makes its way to the phenomenology, we might consider just like Searle, is set off by the intentional states operating from beneath the conscious surface. In all likelihood we have to admit of intentional states whose ontology is rooted in the physical brain yet which are functionally different from their material causes and also causally efficacious such that they can alter their ancestral roots (the cerebral mechanisms, so to speak) as well as their own mental species; else we would be left with no other

option but to label many of our regular voluntary acts (contrasted with reflex acts such as swiftly taking our fingers off a hot object) as totally neuroreductionistic, mechanistic and therefore unfree. The above examples of acts however should not pigeonhole unconscious intentional states to an unobtrusive mode of free will. There are acts that are mediated by the conscious forms of these states although they are equally well done unconsciously. To take thus the second illustration of the unconscious offered by Blackmore (2004), driving to a familiar destination, say the supermarket, does not take conscious representation of intention to do the job since the preconscious intentional states constituting the know-how of driving is enough to execute this act. But I can *consciously* be conscious about this journey if for example, I am to be the lead for my friend's car following trail or show my neighbor sitting next to me the way to the supermarket. Now here I think we are led to the consideration of the preconscious variety of unconscious mental states entrenched in our cognitive architecture as dispositions, which will be our moot point in the next section.

To return once again to our present discussion of causal power of the preconscious, Holton (2006, p.3) suspects that there is a two-level system operating in two kinds of voluntary actions, as he argues that it is not only the conscious, deliberative acts but also stereotyped, automatized acts, acts that are "performed without choice" that carry the hallmark of free will. Evolutionary psychologists these days believe that rational acts characterized by two different functional idiosyncrasies are subserved by two different mental processes divided over the conscious/unconscious binary. Thus System 1 process underlies implicit, cognitively economical, that is rapid thinking as it heavily engages heuristics thereby helping us form actions on the basis of past experiences and only its final product is posted in consciousness (Evans, 2003); it is specifically designed to serve the immediate purpose of effectively dealing with and respond to environmental stimuli encountered before, enabling us to hold our own and survive (Over, 2003). System 2 process, on the contrary, involves explicit, slow, abstract hypothetical thinking as it is characteristically designed to effectively deal with novel and uncertain situations (Evans, 2003; Over, 2003). Along this line of suggestion made for acts of reasoning, Holton (op. cit.) also hints at the idea that the volitional acts that are done without explicit acts of judging and choosing are governed by this System 1 process. The example of such acts he offers for consideration is the fire-fighter's on-the-spur-of the moment activities to douse the flame. This particular example reminds us of the athletic moves example given by Searle and it seems very likely that the fire-fighters being exposed to and trained in dealing with fire accidents on a regular basis, their intentional states forming the know-how of dealing with such cases do not any longer need the conscious priming and their rapid yet very intelligibly directed movements at the scene of fire only vouchsafe the intentional causation by the preconscious.

III. Morphological Existence of Intentional States: The Proposal

In the preceding section we gave some concrete examples to enhance plausibility of the idea that there are intentional states that generate behavior without representing themselves in the phenomenology of free will. As Searle puts it, these are unconscious

intentional states that teem with the potentiality of becoming conscious mental states as they are essentially linked to the conscious, in accordance with a psychological law which he refers to as the Connection Principle (Searle, 2004, p.246). But what is the nature of the existence when the unconscious intentional states remain offline? To this Searle gives a clear materialistic yet non-reductive picture of the mental:

> … the ontology of the unconscious is best thought of as neurobiological states of the brain described dispositionally. In describing a non-conscious neurobiological state as an unconscious intentional state, we are describing that state in terms of its capacity to cause *conscious thoughts and behaviour*. For example, the man who believes, even when sound asleep, that Clinton is President of the US has a brain state capable of causing the thought in a conscious form, 'Clinton is President of the US.' (Searle, 2000, p.174).

Searle (2000, 2004) also invents a term to explicate this capacity, viz. *aspectual shapes*. In fact he brings out a generic feature of intentional states, irrespective of whether they are unconscious or conscious, according to which since it is in virtue of the fact that all intentional states necessarily have a definitive content that refers to an object or an event of the world always in the light of one or the other psychological mode (hope, belief, desire, disgust etc.)- and he calls this feature by the name of *aspectual shapes*- that they are capable of representation as propositional attitudes, such as 'I believe that hitting the ball from this angle will lead it into the hole' or 'I loathe marshmallow' (Searle, 2004, pp.166-67). At this juncture, I have an objection to make against Searle's view on such a structure of unconscious intentional states. Granted that these states remain low-key as dispositions anchored in the brain and are capable of becoming conspicuous as conscious thoughts. But Searle employs his Connection Principle to emphasize that it is essential for the unconscious intentional states to be represented as conscious to transform their aspectual shapes or else there would be no explanation as to how they cause conscious behavior. These states do not however always have conscious thought representations as we have noted in the preceding section. Conscious intentional states of course have a definitive content that is spelled out in speech acts. But what appears is that only the conscious intentional states fit the bill if a mental state to qualify as an intentional state, as Searle would insist, must meet the condition of possessing an *aspectual shape*. However, Searle is on the right track when he regards the intentional states in question as dispositions. His account of the unconscious intentional states certainly would have been more engaging if he had considered them as non-representational dispositions. Now I will dwell briefly on why such characterization of the unconscious intentional states is a must if we are to capture them in their full essence.

The suggestion is borne out in the context of moral judgment. The current research on moral judgment is rife with the speculation whether moral judgment is an outcome of intuitions shaped by cultural practices or is a purely rational process. On the Social Intuitionist Model of moral judgment developed by moral psychologist Haidt, moral judgment is a direct outcome of affect-backed gut-intuitions shaped by culture while "moral reasoning is usually an ex post facto process used to influence the intuitions (and hence judgments) of other people" (2001, p.814). Haidt claims that

moral reasoning, which he defines as a "conscious mental activity that consists of transforming given information about people in order to reach a moral judgment" (Ibid.,p.818) is nothing more than a confabulation which merely serves the purpose of eliciting a different moral judgment than the one made by influencing the intuition; moral reasoning is rarely the direct cause of moral judgments (Ibid.,p.815). Haidt cites evidence for his claim from common moral discourse. He shows that when people are asked to judge about certain prohibitive behavior like incest or homosexual marriage, their initial response is negative which is in alignment with social injunctions, but when probed why they think these are morally devious acts, they resort to some ill-conceived justificatory reasoning which clearly shows the process by which they first arrived at those judgments could not be reason-driven. Now it looks like Haidt speaks of moral judgment and moral reasoning in the same vein that Libet speaks of volitional acts and conscious intention-in-act. Drawing an analogy, we can then say that just as Haidt is reluctant to accord moral reasoning any causal role for the generation of moral judgment and relegates it to a confabulator of sorts, Libet also believes that conscious intention does not play any causal role to generate volitional acts as the acts have their causal origin in fast-moving brain acts and hence conscious intention like moral reasoning is left with the role of controlling behavior.

Horgan and Timmons enter the scene at this point with their proposal of morphological rationalism which is designed to show how the process of moral judgment is actually a causal outcome of moral norms embedded in the individual's psychological structure as dispositions and operating automatically without necessarily being represented by an occurrent reasoning process apprehensible in the phenomenology which is the reason why people are quick at judging those cases cited by Haidt. Thus there is a close parallel between their suggestion that moral principles embedded in our psychological structure endow us with the dispositions to automatically form moral judgments and the proposal being contended for in this piece of work, namely, intentional states existing as dispositions are the direct causes of non-deliberative free acts that do not always require mediation by a token conscious, online intentional state. Thus, Searlean account of intentional states perhaps overlooks that *aspectual shapes* do not capture the quintessence of at least the unconscious intentional states which he rightly paraphrases as dispositions. Now what is it like for moral rules to persist morphologically so as to be capable enough to display their causal traits in their product moral judgment? Horgan and Timmons (2007, pp.285-86) offer the following explanation:

> Non-deliberative moral judgments would be better explained when it is accounted for in terms of a wide-ranging set of moral norms that we as adult individuals have internalized than in terms of affect-backed gut intuitions. Such way of possessing moral norms is to possess them morphologically because they are so deeply entrenched in our persisting cognitive system that when we are drawing on them to form a moral judgment they operate *procedurally*, that is only lend a know-how out of their morphology or dispositional structure to the process of moral judgment and the whole process occurs automatically without there being any need for a token representation of the relevant moral norms. Significantly, Horgan and Timmons adduce the heuristic-loaded activities by sportsmen to drive home that moral rules

> can operate procedurally. For example, when an ace golfer is hitting a tee shot, she is not required to bring forth in her consciousness the physical strategies required to successfully pull off the shot as that would be cognitively burdensome since she has those physical strategies (such as even balance between both feet etc.) internalized equipping her with a know-how, a *procedural* knowledge. It can then be said that she has those game rules subsisting in her cognitive system morphologically.

Now what are the advantages of applying this same model for dispositional moral norms to dispositional intentional states? First, we can replace the term 'unconscious' with 'morphological'. If we look at well-internalized intentional states that operate like System 1 processes (vide pp.11-12 in this work) from Searlean viewpoint, then we would be compelled to insist on their transformation into occurrent representational states in which process they are supposed to give their contextual idiosyncratic content (*aspectual shapes* shaped by belief or hope or desire etc.) to the formation of a conscious intention-in-act defined by a propositional attitude leading to the act. But in view of the nature of influence of this genre of intentional states as discussed in section 2, these states seem to lend their know-how to the conscious act directly, thereby being causally responsible for them. They can be called unconscious only to the extent that while they are operating *procedurally* to cause a particular act, if at all we are permitted to use that terminology, we need not palpably have them in our phenomenology; but 'morphological' seems a better term to describe them, for it accentuates their non-representational character, automaticity and internalizability.

Conclusion

The very idea of free will involves causation and the aim of the paper was to give a comprehensive picture of one kind of mental causation constituting free will. The particular mental causation that formed the mainstay of this paper has hitherto been referred to as unconscious. But the task undertaken here was to argue for the idea that if unconscious intentional states mean only the conscious intentional states lying unmanifested then we won't be in a position to fully appreciate the workings of the unconscious intentional states that actually are our dispositional tools to engage in a relation with the external world. That is not to say that these *morphological* dispositions do not have conscious representations if the necessity arises. After all, Libet found that an unconscious brain activity in relation to a voluntary physical act leapfrogged into the subjective awareness about the act. So, another part of the picture concerning free will implicates intentional causation accessible to consciousness. This type of intentional causation consists in rational deliberative processes say deliberations (weighing pros and cons), choosing (deciding *that*) and judging (deciding *to*) (Holton, 2006, pp.5-6). And the morphological intentional causation and the conscious intentional causation together constitute the hallmark of the operant free will, free will in its ground reality.

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