

From My Arm Rising to Me Raising It: a Taxonomy of Behaviors and Actions

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DOI 10.2478/kjps-2019-0012

Abstract: Human behavior can range from automatic and even unconscious bodily movements to very elaborate and rational decisions. In this paper I develop a taxonomy based on the empirical analysis of the phenomenology associated with selected instances of different forms of behavior. The transition from sub-actional behavior to proper actions is shown to take place when the agent intervenes actively in the causal process leading from her mental states to the bodily movement by exercising her power to form intentions to act. It is argued that this type of analysis could be helpful to agent-causal accounts of action and free will.

Keywords: phenomenology, taxonomy, behavior, action, will, agent-causation.

1. Introduction

In biology, actions are distinguished from non-actional behaviors in that the latter are mere automatic responses to stimuli while the former include an intermediate process whereby the animal may (consciously or unconsciously) choose between various alternatives.

Similarly, in philosophy, despite the enormous controversy over the definition of every concept involved in a theory of action and the relation obtaining between them, the distinction between what *happens* to

people and what people *do* is foundational to most accounts. Actions are commonly considered to be behaviors intentionally authored by the subject, an intention being an executive attitude towards the mental representation of an action (cf. Mele 2009: 3–7).

To make a decision to A is to settle what to do in a previously undetermined situation, by forming an intention to A and leaving aside the alternative of not A-ing. Of course, not every action has to be the result of a decision. More often than not, there is no need to decide, for there is no uncertainty about what is to be done. In such cases agents act on intentions that derive from their standing preferences (that arise out of habit or are the result of intentions already formed). Likewise, not all decisions are the result of a deliberative process (the process of considering the reasons in favor of each possible alternative), for there are impulsive decisions made on the spot that are nevertheless the settling of previous conditions of uncertainty and bring about an intention to act.

The difference between behaviors that simply involve the agent as its locus ('my arm rose up') and actions that the agent endorses as her own ('I raised my arm') is grounded in the phenomenology of agency. My arm raising up is experienced as an event taking place in my body whereas me raising it is felt as something I did. But is there always such a straightforward difference between non-actional behaviors and proper actions? Is there a way to dig deeper into these phenomena and understand their structure in more detail?

My aim with this paper is to leverage the subjective experience underlying many different types of self-initiated movements as a way to better understand the elements that must be in place for an action to come to be. The assumption underlying this project is that consistent phenomenologies demand a consistent explanation. If most people under similar circumstances describe a similar experience, then we have reason to take it seriously in our explanations of the underlying phenomena. No theory of action can be complete unless it is able to account for the first-person experience associated with the phenomena it is expected to subsume.

In the following sections, I will describe the common variations we find in the phenomenology associated with different cases of self-initiated bodily movements, which suggest that we think of agency as coming in

degrees. The resulting taxonomy (see table) expresses the differences in the level of engagement of the agent in the production of her behavior. These differences underpin the divide between actional and non-actional behaviors, as well as the internal categories into which they are subdivided.

2. Sub-actional Behaviors

2.1 Zombie-like Behavior

Let us start with a very particular condition called Anarchic Hand syndrome (AHS). People suffering from this disease find themselves totally unable to control the movements of one of their limbs, which engages in behavior that seems goal-directed and often elicited by inputs from the environment, but which is unintended. The ‘alien hand’¹ will unbutton a shirt that the patient keeps trying to rebutton with the other hand, it will slap the patient in the face, it will refuse to cooperate in tasks such as cooking or reading the newspaper.

AHS patients retain the ability to act purposefully with the rest of their body and they feel alienated from the behavior of the anarchic limb which, despite belonging to them, seems to have ‘a mind of its own’. That part of their own body behaves in a way that is not intended and cannot be inhibited, which they try to refrain (for example, by blocking it with the other hand) and about which they express frustration. Complex as it might be, this type of behavior is like a reflex, a purely mechanical response to a certain input (internal or external), with no conscious mental state involved, insofar as the patient is not aware of what her hand does, nor does she have any intention associated with that movement. The phenomenological experience of AHS patients is that of failed authorship (Bayne & Levy 2006).

¹ I am using the term ‘alien hand’ here in order to distinguish the hand that is functioning independently from the patient’s will, from the one that is still under her control. However, note that the Anarchic Hand Syndrome should be distinguished from the Alien Hand Syndrome, which is a condition in which patients feel that one of their upper limbs does not belong to them – whereas in the disorder that is concerning us here, there is no such feeling (Cf. Pacherie 2007).

TYPE OF BEHAVIOR/ ACTION	ELEMENTS	EXAMPLE	CAUSAL STRUCTURE	CONTROL
zombie-like behavior	Bodily movement Absent-minded behavior	Anarchic hand syndrome Utilization behavior	Environmental and/or neural input → behavior	
alienated behavior	Bodily movement Awareness Implanted intention	Hypnosis	Environmental input + implanted intention → behavior	cannot be stopped nor controlled
reactive behavior	Bodily movement Awareness	Tourette's (tic with no premonitory urge) Nervous shooting / climbing	Environmental and neural or emotional input → behavior	
purposive behavior	Bodily movement Awareness Inner drive	Tourette's (tic with premonitory urge) Kleptomania Addiction Anger	Inner drive → behavior	can be stopped and controlled effortfully
THE AGENT ENTERS THE PICTURE				
spontaneous action	Bodily movement Awareness Standing intention	Routines Self-regulation habits	Reasons + standing intentions → action	
action-on-the-spot	Bodily movement Awareness Intention Fast decision	Libet's decisions Immediate decisions	Inner drive + decision → action Habits/ preferences → decision → action	can be stopped and controlled easily
deliberative action	Bodily movement Awareness Intention Decision Deliberation	Rational decisions	Deliberation → decision → action	

A more common situation that is relatively similar to AHS is absentminded behavior. Imagine those everyday situations in which people answer questions they are posed without realizing what they are saying (when they are watching television, for instance), or when people pick up an object (their keys or glasses, say) and distractedly put it somewhere else without realizing what they are doing – which might make them have to look for that object for twenty minutes the next time they must leave the house. When asked why they put the object in the place where it was eventually found, people will say they do not know.² They do not even remember putting it there, just like people suffering from AHS do not know what their hand is doing if they do not see it doing it.

There is an important difference between absentminded and AHS behavior: patients suffering from anarchic hand syndrome experience a severe impairment of their proprioceptive awareness in what regards the movements of their alien limb, while in cases of absentminded behavior there is not such an impairment. Nevertheless, this aspect does not seem to be particularly significant to the classification of these behaviors within the spectrum of agency. What prevents AHS patients from endorsing the behavior of their alien hand is the fact that they cannot control it, not the fact that they cannot feel it. In fact, their defective proprioception is seldom mentioned in their complaints.

Both these conditions share a significant detachment between the subjects' conscious experience and some of their bodily movements, which justifies their classification within the category I call *zombie-like behavior*. The phenomenology associated with it consists in the lack of awareness and intentionality associated with a coherent bodily movement, which is common to a pathological case such as AHS, in which the detachment between conscious experience and movement is persistent and involves

² Note that this situation is different from the more common cases of distracted driving, in which what the body does by steering the wheel is to purposefully respond to environmental requests according to the subject's conscious general intention to arrive safely at a certain destination. In those cases, if asked why she turned left or right on a crossroads, the subject will know how to respond, despite not having payed attention to her action right then. It is a case of what I call spontaneous actions, which will be explained in section 3.1.

only one limb, as well as ordinary cases in which this separation occurs for a shorter period of time and regards the activity of the whole body.

The phenomenology of zombie-like behaviors suggests that they do not consist in actions at all. Such consideration is intuitively accepted in the case of the alien hand (Eilan and Roessler 2003), which often ‘acts’ ostensibly against the patient’s will. It is arguably more contentious in the case of absentminded behaviors, maybe because they seem to be consistent with the subject’s more general habits and tendencies (e.g. I may distractedly place the car keys in the side pocket of my purse and fail to remember it later, but I will most likely not flush them down the toilet). However, insofar as absentminded behavior is characterized by coherent bodily movements that the individual is not aware of nor intended to do, I see no reason not to place absentminded behavior in the same category as AHS behavior, according to the same criteria.

2.2 Alienated Behavior

Another interesting condition in which people lose the capacity to inhibit stimulus-driven behavior is called Utilization Behavior (UB). Patients that suffer from this disease are dependent on external stimuli in such a way that they cannot act unless solicited and their perception of an object is taken as an ‘order’ to use it (Lhermitte *et al.* 1986). If they see a pair of glasses, they will immediately put them on, and if a second pair is shown to them before the first pair has been taken off, they will put that second pair of glasses on top of the first pair; if a hammer and a nail are put before them, they will immediately hammer the nail to a nearby wall, independently of the appropriateness of the context, or lack thereof.

Strangely, though, unlike patients suffering from AHS, UB patients are apparently not surprised by their behavior and if asked why they did those things, they will give evasive explanations such as that ‘they thought they were duties that had to be carried out and that they were natural things to do’ (Pacherie 2007: 212). This means that a very significant difference between UB and AHS is that patients suffering from the former do not seem to realize the inadequacy of their behavior and so they endorse it as if it were an action they performed voluntarily. Interestingly, this difference in the phenomenology of agency is reflected also in

the inability of UB patients to act purposefully in the absence of cues from the environment (they exhibit apathy when not externally stimulated).

Also, UB patients do not explain their actions in terms of their own intentions or desires, but rather are impelled to use objects by a general sense of duty. Together with the apathy patients exhibit, this has led authors to hypothesize that the structures that are impaired in cases of UB somehow involve the general capacity for ‘agentive self-awareness’, the lack of which prevents patients both from engaging in spontaneous actions and from realizing that their automatic behavior was not autonomously brought about by their own intentions (*idem*: 216). When patients recover from the lesions in their frontal lobes associated with the disease, their actions regain independence from the environment, and they express perplexity at their previous behavior and at ‘the fact that they had no controlling thoughts of their own’ (Lhermitte *et al.* 1986: 332).

I believe this is analogous to what one might imagine could happen in cases of deep hypnosis. Subjects that are hypnotized report the experience of an ‘absorbed and sustained focus of attention on one or few targets’, a ‘relative absence of judging, monitoring, and censoring’, and the feeling that one’s own responses are ‘automatic (i.e., without deliberation and/or effort)’ (Rainville & Price 2003: 111). All these elements seem to adequately describe what we can infer from UB patients’ reports of their experience. The objects that they encounter solicit in them an immediate response, that is not subjectively felt as a reflex, but as a voluntary need to use the object, as if there was nothing else one could do in that situation. As hypnotized subjects describe, there is a ‘sense of automaticity wherein thinking is no longer felt as preceding action but action is felt as preceding thought’ (*idem*: 113).

These sorts of cases are different from the zombie ones in that agents are aware of what they are doing. However, common intuition will exempt these patients from responsibility in case their behavior leads to undesirable consequences, because the mental states that lead to the act are not self-originated, but are rather implanted in the agent’s minds by an alien element: the brain damage or the hypnosis. There is no agential intervention because the agent is somehow dormant, passive, incapable of ‘judging, monitoring, and censoring’. The process that leads to the

behavior is like a stimulus-response process, even if a conscious mental state is perceived to be the cause (an urge, a sense of duty, depending on the situation at stake), as opposed to a neural unconscious state, as in the Anarchic Hand cases. But such a conscious mental state is not a mental state *of the agent*; it just highjacked the agent's mind for a certain period of time, like a virus that uses the host cell's machinery in order to replicate. Once these patients 'wake up' from that condition (either because they are healed or because the effect of hypnosis wears off), they realize what they have done and become mortified.

Given the particular nature of these cases, I call the type of behavior that they describe *alienated behavior*. And again, insofar as it fails to stem from any self-formed intention to act, I consider this behavior to be sub-actional.

2.3 Reactive Behavior

Let us consider now the type of cases that I call *reactive behavior*. They regard those situations in which our own conscious mental states are perceived to be amongst the causes of our behavior but not with the conscious consent of our control system, hence failing to be placed among the things that we *do*. The famous 'deviant causal chains' associated with cases such as Donald Davidson's nervous climber (cf. Davidson 1973) are quintessential examples of such situations. Imagine that an agent wants to perform a certain action (to shoot someone, for instance) but, due to her nervousness, her body performs the action for her (the involuntary twitching of the trigger-finger causes the gun to fire) without it having been *her* to decide or intend to do it then. The agent's emotions caused her behavior reactively, through a causal chain of which she was not in charge, even though she could see the whole process happening 'inside' herself.

This is also what happens to patients suffering from Tourette's Syndrome (TS), most of the time. This condition makes it extremely difficult for them to control the outburst of motor and vocal tics, which vary a lot according to the context and can range from discrete behaviors such as uttering meaningless sounds or blinking their eyes repeatedly, to socially disturbing ones such as punching themselves, touching objects or people, imprecating and repeating what other people say. The dis-

ease makes them also more susceptible to having obsessive thoughts, reacting with anxiety to novel situations, failing to inhibit impulses and occasional rage, etc.

When a patient's tics are involuntary and uncontrollable, her behavior is reactive, like the twitching of the nervous assassin's finger. In those cases, tics just have to be released, like a sneeze. That does not happen only with physical movements. Frequently, TS patients find it impossible to go through a written text because they feel the uncontrollable need to 'read each line many times,... to line up each paragraph to get all four corners symmetrically in [their] visual field, to 'symmetrize' the punctuation in [their] mind,... to check the frequency of a given letter' (Sachs 1995: 86), etc. Also in cases like these, which resemble the compulsive episodes typical of anxiety disorders, the patient's mental undertakings should not be considered to be actions; insofar as they are not intentional, they would better be classified as forms of reactive behavior.

Note that, unlike what happens in the abovementioned cases of Utilization Behavior, in which patients who are healed from the disease do not identify with their previous behavior, Touretters endorse their tics and other symptoms as part of their normal way of being in the world. In the words of a patient with a severe almost incapacitating condition:

Suppose you could take away the tics. What would be left? I consist of tics – there'd be nothing left. (Sachs 1985: 93)

This endorsement, however, should not influence our judgement of these cases as sub-actional. We tend to exempt TS patients from moral responsibility for inappropriate behavior that they did not control:

No moral philosopher is inclined to hold a Tourettic individual responsible for throwing a plate, shouting 'shit!' or jerking her head in a way which led to some morally unfortunate outcome. The sufferer from Tourette syndrome is not to blame for these actions: it is the disorder which produces them (Schroeder 2005: 107).

For the same reason, and following the criteria we have used so far in this paper, I believe we should consider that such inadvertent tics are not proper actions.

Interestingly, however, Tourette's is such a complex disease, with so many degrees and variations, that it can fit into different levels of behavior/agency, as we will see.

2.4 Purposive Behavior

While growing up, most Touretters start experiencing premonitory sensory phenomena which allow them to sense that a certain tic is about to arise and to prevent it occasionally, with some training and effort. However, even when it is possible to control the tics, that process is very difficult and stressful for the patient, who usually cannot eliminate the tics altogether but only 'displace' them in space – e.g. by replacing a facial tic with a switch on a foot – or in time – e.g. by controlling herself successfully for some hours and then releasing a myriad of tics secretly in solitary circumstances (cf. Buckser 2008: 175–6; Banaschewski *et al.* 2003).

When a TS patient lets her tics be released with no effort to control them, she undertakes a somehow hybrid behavior that I call *purposive*, which takes place when conscious mental states related to desires (urges, impulses, needs) are the direct causes of the behavior. In these situations, there is a mixture of voluntary and involuntary elements in the agent's performance: the voluntary removal of the inhibitory breaks that might block the tic, together with the involuntary outburst of the specific tic that comes about. When on the contrary the patient blocks her tics, she takes back the control of her body, directing it in function of her intentions to act. In those cases, the transition from sub-actional behavior to a full-blooded action is accomplished.

Another two interesting examples of conditions where a person's behavior may be more or less controlled, and thus more or less authored by the agent are kleptomania and substance abuse: they too are characterized by the failure to resist a harmful impulse that one would rather not have.

Drug addiction is often defined as 'the loss of control over the intense urges to take the drug even at the expense of adverse consequences'

(Volkow & Li 2005: 1429). The degree to which that control is effectively lost is still under controversy (see, for example, Kennett 2013 and Satel & Lilienfeld 2013) and it is an empirical fact that the effects drugs have on each person, both at the neural and the behavioral level, are very diverse.

The mainstream view, however, is that drug addiction is a chronic disease whereby patients lose the ability to value any sources of pleasure besides the drug, engaging in a behavior which is compelled, either by the need to escape the physical symptoms of withdrawal, which are extremely painful, or by the psychological mechanisms of craving. Drug addicts are less capable of acting on reasons reflecting long-term goals than non-addicts, as well as more reactive to drug-related stimuli catching their attention and triggering automatic motor mechanisms of response (Noël *et al.* 2006). Once a person becomes addicted, drug-related thoughts become impossible to eliminate, while the drug craving makes the desire to take the drug the only motivation that the addict can experience. Unlike the pleasure given by the drug, which diminishes over time, the craving remains extremely strong even after long periods of abstinence and it is not experienced as the reasonable desire for something pleasurable, but as an intense feeling of ‘wanting’ that is irresponsive to reasons (Holton & Berridge 2013).

Probably the objectors to the brain-disease model are right when they claim that, since most drug-addicts do eventually quit on their own (most of them do so before their 30’s), to say that patients are powerless is neither truthful nor fair (not to mention harmful). However, these considerations do not change the fact that, *if and when* hardcore addicts act out of compulsion, they are responding to an urge that is not stemming from an actively formed intention to act. The tendency for automatic action given the monopolization of attention by drug-related stimuli makes the option of resisting temptation so effortful that the alternative of just throwing the towel and taking the drug becomes almost irresistible – again, just like a Touretter, when she finally cannot control her ticcing anymore and an outburst of motor and vocal movements is released.

The addicts’ behavior is purposeful in the sense that they are doing what at that moment they most want to do and they can make small choices about when and how to use the drug – just like a TS patient can, when she displaces her ticcing in order to render it more discrete. Nev-

ertheless, even if a drug addict can choose how much heroin he wants to shoot up, he is not deciding to take the drug *simpliciter*. Even if he is given all the reasons in the world for not taking it (all the bad consequences, the possibility of dying, of being incarcerated, of losing custody of his children), once he is addicted and all the severe circuitry changes have taken place in his brain, he has lost control over his decisions and his behavior will very hardly change.

When giving in to his craving, the addict, as well as the ticcing TS patient, is not in control of his behavior nor is he following an intention he has actively formed; he is rather drifting in the current of his inner drives. Just as a Touretter shouting ‘Shit!’ in the middle of a religious celebration can be easily considered not to have been the author of her behavior, so should a drug addict shooting up a dose of heroin be exempted from a similar authorship. And if it seems intuitive to say that the former behavior is not yet a proper action, then we should overcome resistance in the consideration of the latter as a sub-actional behavior as well. In fact, in its turmoil, the addict’s experience is like that of the Touretter: an experience of passivity rather than activity.

Kleptomania is similar in many aspects to these two disorders, even though it has been comparatively less studied and hence its neurobiology is yet poorly understood. It is defined in the DSM-5 as the ‘recurrent failure to resist impulses to steal objects that are not needed for personal use or for their monetary value’. It is currently considered to be a chronic disease, with exacerbations and remissions (Grant & Kim 2002: 378), the phenomenology of which is very similar to what addicts experience during craving and substance use (Grant *et al.* 2010), as well as to the Tourettic need to release the urge to tic: stealing episodes are characterized by the experience of an ‘increasing sense of tension immediately before committing the theft’ as well as ‘pleasure, gratification, or release at the time of committing the theft’ (DSM-5) and the periods of voluntary abstinence are characterized by increasing urges. The kleptomaniac’s behavior is impulsive, repetitive and expresses an impaired inhibition that patients resent. They do not steal for personal gain or fun, they do it for ‘symptomatic relief’ (Grant 2006: 82) and experience shame and guilt afterwards (Grant & Kim 2002), which may lead in some cases to

considering the possibility of suicide, ‘to stop themselves from stealing’ (*idem*: 380).

I believe stealing is not an action in the case of kleptomaniacs, just like taking drugs or releasing a previously sensed tic in the two aforementioned examples were not. However, the behavior of a kleptomaniac is clearly purposive, as the patient has to articulate different levels of attention and movement in order to do something that is dangerous and shameful but that needs to be done to soothe the increasing tension she feels. She knows what she is doing and she does what she most strongly wants to do at that moment, even though she would rather not want to do it – as the persisting efforts kleptomaniacs do to resist their urges confirm (*idem*: 381).

Harry Frankfurt famously argued for a hierarchical view of the human person as someone who is capable of having second-order volitions, that is, ‘capable of wanting to be different, in [her] preferences and purposes, from what [she] is’ (Frankfurt 1971: 12). If my analysis is correct, this ability is exhibited from the level of complexity of purposive behavior upward, but not before. In cases of zombie, alienated or reactive behavior, there were not yet first-order desires or urges about which the person in question might have an approving or disapproving perspective. The subject could be annoyed at her behavior, as in cases of Anarchic Hand Syndrome, but the object of her disengagement was a mere physical movement, not a psychological feature that she disliked about herself. In contrast, in cases of purposive behavior, there is an urge that moves the person at the level of desire, that makes her *want* to do something, and that wanting is what is perceived by her as the motor of her endeavors. A motor that can somehow escape her own mindful control.

This can happen to any of us on a daily basis, especially if one is easily driven by strong emotions. When hot-tempered people are furious and engage in a discussion, they often say and do things they might regret and that they had explicitly promised themselves not to say or do. That is why we often avoid situations that might get out of hand, for instance by choosing not to talk personally to people that make us ‘lose our temper’. These are everyday situations in which it is not a drink or a drug that take hold of our reactions, it is not a disease either, it is our emotions.

In certain situations, they make us lose rational control over our actions and say ‘it wasn’t me, it was my resentment [or rage, or fear or jealousy] speaking’ (example adapted from Velleman 1992: 465).

3. Actions

According to my analysis, Tourette’s syndrome includes instances of reactive behavior (unpredicted tics), purposive behavior (intentionally uncontrolled tics) and proper actions (controlled tics). Drug addiction and kleptomania too are considered to elicit behavior that is still sub-actional, while also allowing for people suffering from these conditions to sometimes act as true agents when they manage to control their cravings and urges and choose not to consume or steal.

When subjects do what they intend or decide to do, they act. One way to judge whether a certain condition or context allows for this level of autonomy is to look for reasons-responsiveness, i.e. the agent’s ability to respond to reasons.³ Despite their differences, AHS and UB patients, hypnotized, absent-minded, nervous or enraged people, uncontrolled addicts, kleptomaniacs and Touretters, they all lack – permanently or temporarily – the ability to change route once they are already moving. Their behavior is often hurtful, dangerous, irrational, contrary to their best judgement, but despite all reasons to the contrary, they still fail to avoid it most of the time. In contrast, when people manage to reconsider and to better adapt to the circumstances, e.g. by controlling a tic or inhibiting a violent gesture, we have evidence that their behavior stems from an actively and autonomously formed intention to act. An intention that can be superseded by a new one, whenever the agent changes her mind. Intentional and reasons-responsive behaviors are what we call actions. As with sub-actional behaviors, actions too come in degrees.

³ The concept of reasons-responsiveness was famously coined by John Martin Fischer and Mark Ravizza in their 1998 book *Responsibility and Control*, where it constituted the base for a sophisticated and very influential compatibilist account of free will. My use of the concept has a broader scope, as I consider the agent’s responsiveness to reasons to be an ability that is present in actions in general, not only in free actions.

3.1 Spontaneous Actions

The actions in which the agent is less involved are *spontaneous actions*, such as routinely preparing one's breakfast. These actions are internally perceived as having been impelled by the agent's previously formed intentions (e.g. the intention to eat before leaving for work), despite not having required her full attention at the moment when they are made (e.g. the agent can have an important conversation and prepare breakfast at the same time). Their phenomenology is permeated with a sense of flow, which renders them minimally demanding.

When we go down the stairs, cross the street and enter the car, we are not consciously deciding to do each of these things because we act out of 'a will already formed' (Kane 1996: 78), or according to a 'standing intention' (Mele 2009: 3-4). These actions are under our conscious control nonetheless, and they are reasons-responsive. If our car is parked somewhere else, or if we realize that we forgot something important at home and have to go up the stairs again, etc., our actions will change accordingly.

Another example of spontaneous decisions are self-regulation habits, such as not saying everything that comes to our mind if it is not socially adequate. Since childhood we have been taught these habits and any healthy person will train them gradually while growing up until they become natural and almost effortless. This does not mean that they are not under the agent's control. They are, and that is why one can decide to give in to one's impulses sometimes and act 'childish'. Also, that control is precisely what one loses in emotionally charged situations such as a fight, when these inhibitions are removed.

The agent's phenomenology in these situations is no longer that of a passive spectator but rather that of an active causal element in the sequence leading from her inner drives to overt behavior. This increased sense of agency (Marcel 2003), together with the ability to change gear in response to reasons, justifies the consideration that, in the causal eti-

ology of action, there is finally room for the intervention of the agent's *will* – intended as her power to form intentions to act.⁴

It is important to note that spontaneous actions are most probably extendable to nonhuman animals as well. They too appear to act intentionally when moving in space in search for food and they too are capable of great self-control, with training and reinforcement (think of a predator stalking its prey). We cannot assess the inner experience of dogs or rats, of course, but we can infer, from analogy, that it is probably similar to ours in situations in which all ethological evidence available highlights the goal-directedness and flexibility of animal behavior.

Certainly, spontaneous actions may seem like an automatic response to stimuli from the environment, according to a previously programmed algorithm, just like the utilization behavior of a patient who will hammer a nail to the wall once both these objects are put in front of him. The similarity derives from the fact that routine actions do not follow explicit deliberation, nor are they the outcome of a decision, since there is no uncertainty about what to do under the specific circumstances the agent is in. If I prepare my breakfast, I can think of a dozen other things at the same time, because the movements of my hands cutting slices of bread, taking milk and butter out of the refrigerator, etc., are not something I have to actively decide to do at each instant; they are responses to the information I receive through my retina about where all those things are in space, together with information stored in my memory and the reasons I have for eating this specific type of food right now (my preferences and beliefs about nutrition). Those reasons do not have to be selected each time I perform this action, they are standing reasons that I can act on each time I prepare my breakfast *ceteris paribus*. Note, however, that unlike the patient suffering from UB, a 'normal' agent who acts spontaneously will not act on the stimuli she receives from the environment unless she has a previously acknowledged reason for doing that (e.g. a reason for hammering that nail to the wall). While we are responsive

⁴ This definition of will is close to Robert Kane's concept of 'rational will', intended as a 'set of conceptually interrelated powers or capacities, including the powers to deliberate, or to reason practically, to choose or decide, to make practical judgments, to form intentions or purposes, to critically evaluate reasons for action, and so forth' (1996: 22).

to perceptive signals, we are also responsive to our previously formed reasons, and among all the reasons we might have in favor of a certain action, only some were selected as our effective reasons for acting at this moment. That selection was made by the agent, through her will. Unlike in cases of purposive behavior, where urges and desires immediately yield bodily movements that the agent may even regret, spontaneous actions are assumed by the agent as something she effectively intended to do. And her power to form an intention to act is what renders her the author of her action, not a passive pawn in the game, a victim of her ‘temper’ or of the craving for a certain drug.

3.2 Actions-on-the-Spot

The next level of agency regards what I call *actions-on-the-spot*. These are actions that result from fast decisions: there is still no conscious process of deliberation involved but, unlike in the case of spontaneous actions, there is some uncertainty about the outcome and so the intervention of the agent involves deciding which action to perform. One famous example of this category are the actions performed by subjects in Libet-type experiments. In this family of experiments, conceived originally by Benjamin Libet and colleagues (Libet *et al.* 1983) but replicated by numerous other scientists (most famously by Soon *et al.* 2008 and Fried *et al.* 2011), subjects are asked to flex their wrist or to press one or more buttons, whenever they feel like it. Their decision might regard only the timing of the action (in the case of wrist flexing or pressing just one button) or both the timing and the action itself (in the case of choosing which of two buttons to press). In both cases, however, it is clear that the agent is put before different options (for example, at each instant she has to decide whether to press a button or not) and she is asked to decide on the spot. Subjects in this type of experiments are explicitly requested not to plan their actions in advance, and so what they will eventually do depends on a fast decision that is not preceded by a process of deliberation.

This is analogous to what happens when we make immediate decisions in our everyday life, such as deciding which pair of socks to put on in the morning or which pack of Pampers diapers size 6 to pick at the supermarket. Admitting there is no reason to prefer one pack to another,

nor to use the blue woolen socks rather than the green ones on a cold day in which one will be wearing boots, the decision is preceded by no deliberation, even though it is made and authored by the agent, who is influenced by previous habits and tendencies.

Also in the case of actions-on-the-spot, agency is common to human and many non-human animals. Superior creatures like cats, sharks and snakes are also capable of making fast decisions when they are faced with alternatives. They can choose this path or that, they can go fetch some food or sit a little longer in the sun, they can chase a difficult prey or procrastinate. They are ‘self-movers’ in the sense that they are *able to make themselves (or parts of themselves) move* by exercising their power to settle what they will do with their bodies, from amongst different possibilities that are open to them. Within the boundaries imposed on them by their nature or instinct, ‘animals are therefore in a sense *originators* of certain chains of events because the initiation of those chains depends upon them’ (Steward 2012: 12).⁵

One should avoid any confusion between actions-on-the-spot and reactive behavior. The phenomenological experience of acting-on-the-spot is that of doing what one intends to do, whereas cases of reactive behavior are experienced as passive situations with no sense of agency involved. Even when we do not explicitly decide how to move each foot in front of the other as to walk to the car, we are walking intentionally. We recognize that intention as having been formed by us and we are able to change it, and act accordingly, were the conditions to change and new reasons incline us in a different direction. In contrast, when a Touretter tics, she is entirely passive with respect to that movement and she cannot control nor stop it at will. Even in the case of non-human animals, whom we cannot inquire about the ‘feeling of doing’,⁶ it is reasonable to assume that they can change route according to the circumstances and that they can control what they do with their bodies when they are stalking a prey, as opposed to when they are scratching a persistent itch.

5 For a study relating human fast decisions in Libet-type experiments and similar spontaneous actions in rodents, see Libet *et al.* (1983).

6 As in the title of Bayne and Levy’s 2006 paper concerning the phenomenology of agency.

3.3 Deliberative Actions

Last but not the least, *deliberative actions* are at the top of the pyramid. They regard processes of choosing (and acting upon one's choice) on the basis of reasons consciously weighed by an agent. When we think about which road to take to avoid traffic or whether to accept a new job far away from home, we take (more or less) time to consider the different options we have, the reasons for and against each option, and we make a commitment to one of them based on these reasons. The main difference between actions-on-the-spot and deliberative actions is that in the former case reasons influence the choice the agent makes without her consciously considering them in advance, whereas in the latter case the reflective mind of the agent mediates the decision by pondering upon those reasons explicitly. This of course can happen very fast, maybe in a fraction of a second.

This last degree of agency is human exclusive, so far as we can tell. It requires abstract reflection, something for which a high level of brain complexity is required. However, one must not forget that all the elements that distinguish the 'lower' forms of agency from simpler behaviors are present in deliberative actions as well, namely, the ability to form intentions to act, reasons-responsiveness, and the capacity for decision-making. It is important to keep this in mind so that one does not make the mistake of inferring that the criterion for deliberative agency is simply reasoning. Instead, if we first analyze the requirements of agency as such, from its simplest to its most complex variations, it becomes clear that it is the accumulation of a vast set of abilities what makes rational decision possible.

4. Can we Trust the Subjects?⁷

The present taxonomy offers a model of how the transition from sub-actional behaviors to proper actions can be understood. It is my contention that the careful analysis of the differences in phenomenol-

⁷ 'Trusting the subject' is the title of a double issue of the *Journal of Consciousness Studies* (2003/2004) on the use of introspective reports in science, edited by Anthony Jack and Andreas Roepstorff and later published in a two volume edition.

ogy along the spectrum leading from full passivity to full activity reveal that this transition happens quite late in the spectrum, when the agent's will enters the picture and allows her to form an intention to act, thus authoring the ensuing action, rather than simply responding to her inner drives. The sense of active involvement of the agent as a willful mediator between certain mental states and a corresponding bodily movement is the crucial element that draws that divide.

One may question my overall strategy, by contending that nothing relevant about psychological processes can be learned from attending to phenomenology. Daniel Dennett's proposal for a strictly *heterophenomenological* practice, for instance, is based upon a radically agnostic attitude towards the accuracy of subjective reports and the reliability of introspection, intended as the first-personal access to one's conscious states (Dennett 1991, 2003, 2008). According to Dennett's proposed method, cognitive scientists should treat their subject's phenomenology, as well as their own first-person impressions, as mere fictions. Granted, subjects take themselves to be telling the truth about what is happening in their conscious mind. But we, scientists, should know better and refuse to trust them at face value. We can use the subjects' utterances as third-person data, but never assume them to correspond to real experiences.

The heterophenomenologist describes a world, the subject's heterophenomenological world, in which there are various *objects*, in which *things happen*, but if we ask 'What are these objects, and what are they *made of*? The answer is 'Nothing'! (Dennett 1982: 159)

This unusually radical stance has been extensively criticized by numerous philosophers and scientists (Goldman 2004, Velmans 2007, Zahavi 2007, Beenfeldt 2008). How can we legitimately treat as fictions the reports that subjects give about *what it is like* to be them? We may doubt their honesty at times, and question the accuracy of their interpretations of the motivations underlying their inner motions, options and thoughts. After all, we have known for centuries now just how fallible people are at inferring causation. But that is very different from denying any evidential status to introspective reports as such. Insofar as introspection is limited

to a description of portions of experience subjects can have a good grip on (e.g. short chunks of recent experiences that subjects attended to), it can be ‘a valuable source of evidence about mental processes’ (Jack & Roepstorff 2002: 333), an arguably unavoidable one when it comes to conscious experience.

Since Francisco Varela’s 1996 seminal paper advocating for the integration of phenomenological techniques and cognitive science in the new discipline of neurophenomenology, there has been an increasing recognition of the importance of taking subjects seriously and using their introspective reports as data in neuroscience (e.g. Lutz *et al.* 2002, Petitmengin *et al.* 2007, Gould *et al.* 2014). In psychiatry, the field of phenomenological psychopathology had gained increased interest (Sass *et al.* 2011). In both philosophy and cognitive science, research on agency has been unremittingly based on phenomenological reports (Blakemore *et al.* 2002, Bayne & Levy 2006, Haggard & Tsakiris 2009, Marcel 2003).

I believe that the way in which the present taxonomy was developed is coherent with the principles that have been guiding a growing community of scientists who wish to couple their scientific third-person understanding of the human mind with the first-person experience their subjects, or even themselves, collect and convey. It also fits a robust philosophical tradition which acknowledges the lack of transparency of inner observation but recognizes the invaluable role it plays in the study of conscious processes (Searle 1992, Nahmias *et al.* 2004, Holton 2009, Levy 2013).

Taking seriously the experience of AHS, UB and Tourette’s patients, kleptomaniacs and substance abusers, as well as regular people in their everyday variable experience as authors of very different types of actions, allowed me to develop a theoretical analysis of the structure of behavior without losing track of the empirical data available to me as a philosopher.

5. How this Taxonomy Could be of Use

The last topic I want to address, however briefly, is that of the utility of the taxonomy developed here. I believe that my analysis can be of use to philosophers of action who embrace an anti-reductionist theory of agency. Their arguments against accounts that explain the agent’s role

in action production in terms of certain neural or mental events doing all the causal work may gain from an understanding of nuanced variations in the phenomenology of agency which may be harder to justify under a reductionist framework.

Michael Brent has recently presented a new proposed ‘solution to the problem of action’, i.e., the problem of explaining ‘the difference between those bodily movements that you are making happen during an action and those that happen without your making them occur’ (forthcoming: 1). His solution is grounded on a metaphysics of substances and powers and on an agent-causal theory of action, centered around the notion of *effort*. Exerting effort, Brent claims, is a distinctly causal and physical activity that cannot be equated with any mental event. It is by means of this *doing* that actions can be attributable to agents. In his words:

When you are exerting effort as you are moving your body your action is an effect of what you are doing, and your exertion of effort is attributed to you, the agent that is acting, rather than to your mental events. Thus, your exertion of effort while moving your body is an instance of agent causation. (...) The fundamental difference between the bodily movements that you are making happen during an action and those movements that are merely happening is that the former are occurring in conjunction with your exertion of effort, whereas the latter are not. (idem: 17,18)

I believe that the detailed phenomenological descriptions underlying a taxonomy such as mine could be very helpful to Brent. If there is in fact a ‘problem of action’ to which his solution can provide a response, it is illustrated not only in the radical difference between zombie behavior and deliberative actions, but also in much more subtle transitions, as for instance the one between purposive behavior and spontaneous actions. Examples such as the different instances of a Tourette’s patient possible movements or the drug addict’s alternatives of withdrawal or relapse show clearly how a metaphysical account of action must be able to explain how a certain causal sequence ‘feels’ passive while another ‘feels’ active. According to Brent, the intervention of the agent, which is irreducible to the occurrence of certain mental events, amounts to an

exertion of effort, which is absent from non-actional types of behavior. That idea, in fact, finds support in the consideration that a relapsing drug addict or a ticking Touretter typically renounce all control over their doings in exchange for some liberation from the intensive efforts that acting would have required.

Other agent-causalists, such as Tim O'Connor (2000) or Helen Steward (2012), who consider that an action, in order to be free, must be irreducibly caused by the agent, could benefit from this study as well. They oppose the mainstream event-causal perspective according to which actions (both free and non-free) are simply behaviors that are caused in an appropriate way by a special type of events. Even though the taxonomy presented here is not sufficient to make the case for an agent-causal view of free action, I believe it shows that there is a clear phenomenological discontinuity between mere behaviors and proper actions that may plausibly be associated with the distinction between event-caused and agent-caused bodily movements. While in the former case, the agent feels like a spectator of a causal chain happening in her brain and body, in the latter she feels that, on top of the motivating beliefs and desires that inclined her in a certain direction, she was the ultimate promoter of what she did. This favors the thesis according to which there is something more than a sequence of events in the causal etiology of action: when acting, the agent willfully guides her behavior with a certain degree of autonomy from her first-order urges and desires.

The evidence we have points towards the will as an ability that is distinctive of actions: it is exercised whenever the agent acts, and inert when she does not. If this ability is given a non-reductive metaphysical account, then its exercise can be taken as an expression of the substance-cause O'Connor and others consider to be the source of a free action. For my part, I consider it to be the source of any action *simpliciter*.

6. Conclusion

The aim of this paper was to explore the gradients of agency via the analysis of empirical data on the phenomenology associated with different types of behaviors and actions. The result is a taxonomy that allows us to see how a full-blooded action is composed of many different ele-

ments which accumulate, as layers, from the most primitive types of behaviors, to a deliberative action such as choosing what to wear for our best-friend's wedding. The ability to move one's body pairs up with mental states that incline the agent (more or less inexorably) toward a certain behavior, consciousness makes her aware of those states and of other second-order desires she may have, her willpower allows her to avoid indulging in her urges and inhibit her impulsivity in response to reasons and in accordance with a changing environment, and finally her ability to choose between alternatives and to deliberate endows her with a full capacity to act rationally.

When the agent's urges and first-order desires take hold of her bodily movement, as for example in the case of a kleptomaniac's stealing, she feels internally constrained and passive, acting under the compulsion of drives she cannot resist. On the contrary, when she manages to control her urges and act according to her higher order plans, she becomes the proper author of her action.

If my thesis is correct, an agent is a composite organism endowed with the ability to form explicit intentions to act and to stick to them – an ability which she may exercise or not. She does not exercise it when her emotions get the better of her, or when, due to a certain health condition or the fatigue of a tiring day, her mental states cause her behavior directly. In those situations, she retains that power but fails to exercise it. On the contrary, she exercises this power when she consciously intends to move her body in a certain manner and acts accordingly.⁸

I have contended that this power to form intentions to act is not human exclusive. Spontaneous actions and actions-on-the-spot can be performed by any animal whose mental capacities include the possession of beliefs and desires, the formation of intentions and, sometimes, the making of decisions. Most mammals, for instance, can be said to be able to act of their own will and hence are agents. This may seem surprising to the philosophical community, a large portion of which tends to attribute propositional attitudes to creatures with language only (Cf. Davidson 1982). However, the evolutionary continuity in biological sys-

⁸ A neo-aristotelian account of causation such as Jacobs and O'Connor's (2012) can be helpful in framing this view within a metaphysics of substances and powers.

tems allows us to infer that animals share with us the ability to act for reasons despite their lack of language: ‘the path from simple decisions to complex ones may be more straightforward than it appears’ (Gold & Shadlen 2007, 562).

I believe the crucial gap is located, not between rational and irrational, human and non-human, or free and unfree action. The gap that transforms our relations with the world is the one that separates passive from active bodily movements, a transition whereby we become agents and authors in the story of our lives.

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