

**teorema**

Vol. XXXVII/3, 2018, pp. 7-20

ISSN 0210-1602

[BIBLID 0210-1602 (2018) 37:3; pp. 7-20

## The Bodily Self in Action

Víctor M. Verdejo

### RESUMEN

La creciente literatura sobre el cuerpo, la acción y la primera persona nos deja con un panorama de considerable complejidad que hace visible la necesidad de proveer —o empezar a proveer— aproximaciones unificadoras en la intersección de diferentes nociones y áreas de investigación. Los artículos que constituyen este volumen pueden verse como asumiendo este gran reto en relación con una serie de temas específicos, y girando en torno a la idea de que la acción y elementos básicos del análisis de la acción están llamados a desempeñar un papel crucial en la caracterización del nexo fundamental entre el cuerpo y la persona.

PALABRAS CLAVE: *persona corporeizada, autoconciencia, primera persona, conciencia del cuerpo, acción.*

### ABSTRACT

The ever-growing literature on the body, action and the first person leaves us with an overall picture of remarkable complexity that makes visible the need of providing —or taking steps to providing— unifying accounts at the crossroads between different notions and areas of research. The papers constituting this volume can be seen as taking up on this chief challenge in relation to a number of specific topics and revolving around the idea that action and basic elements of the analysis of action are called to play a key role in characterising the fundamental bond between the body and the self.

KEYWORDS: *Bodily Self, Self-Awareness, First Person, Bodily Awareness, Action.*

The relation between the body and the self has seized the fascination of philosophers at least since Descartes's work. It is only in the last decades, however, that attention has veered from the most properly metaphysical terrain towards the elucidation of the distinctive experience of the body and the rich and various forms of self-awareness it gives rise to. The topic, so conceived, is now booming. It is certainly hard to overemphasise the current interest in the bodily conception of the self in a moment that — more than two decades after Bermúdez, Marcel, and Eilan (1995) pioneering volume — is witnessing the appearance of three fresh collections of essays on this and closely related matters [Vignemont and Alsmith

(2017), Bermúdez (2018a), Guillot and García-Carpintero (forthcoming)]. This special issue is a modest contribution to this family of concerns that focuses on the need of providing — or taking steps to providing — unifying accounts that shed light on the various joints articulating the bodily self.

The surge of research in the last years has left us with an overall picture of remarkable complexity organised along two dimensions. On the one hand, a large constellation of related but distinct theoretical notions has emerged. The point affects, for instance, diverse distinctions drawn at the level of awareness (e.g., self-awareness, primitive or non-conceptual self-awareness, interpersonal self-awareness, bodily ownership, bodily control, affective awareness, spatial awareness...). On the other hand, the subject under study involves complexity because of the need to integrate knowledge from a remarkable number of separate disciplines both within the boundaries of philosophy — most clearly, philosophy of mind, action and epistemology — and beyond, well into the domain of cognitive science, neuroscience, psychology and psychiatry.

This complexity makes visible the challenge of providing unifying accounts at the crossroads between the different notions and areas of research. While this special issue can be nothing more than a starting point on this score, each contribution contained in it can be seen as revolving around the idea that action or basic elements of the analysis of action — such as self-ascription of action, action awareness or action-oriented representation — are called to play a key, indispensable role in characterising the fundamental bond between the body and the self.

The structure of this brief introduction is as follows. In Section I, I shall offer some background and motivation for approaches that consider action as a pivotal or integrative factor of reflection on the body and the first person. I will then go on to outline the papers composing the volume as set against this general background. Section II focuses on José Luis Bermúdez's contribution 'First-Person Awareness of Agency' which sets forth a deflationary account of the sense of agency at the basis of self-attributions of action. In 'A View from Nowhere: The Zero Perspective View of Bodily Awareness', introduced in Section III, Krisztina Orbán delves into the distinctive kind of structure governing bodily awareness in order to capture the error-free way in which we happen to discriminate and track our body as the agent of our actions. In Section IV, I discuss Kathleen A. Howe's 'Proprioceptive Awareness and Practical Unity' where she spells out the sense in which bodily awareness in proprioception is fundamental to action and the conception of ourselves as practical agents. Section V presents MaryCatherine McDonald's inter-

disciplinary account of traumatic experience laid out in her piece ‘A Prismatic Account: Body, Thought, Action in Trauma’. A final comment and acknowledgements will close this note in Section VI.

### I. ACTIVATING THE BODILY SELF

When I rationally believe that I am walking down the street, I typically base my mental state on a number of capacities. They obviously include conceptual capacities for my use of the first person concept and the rest of concepts in predicational combination featuring as the content of my belief. But they also cover awareness capacities such as self-awareness (since the belief concerns myself), action awareness (regarding my walking) or bodily awareness (of my own body carrying out the walking), as well as a variety of representational capacities or capacities to gather and access information about my body moving about and the world gliding all around as I stride on. While these different capacities are clearly interrelated in the typical case and for creatures like ourselves, the exact nature of the connection is far from straightforward.

Consider, to illustrate, the notion of body representation or information about one’s body. We know that there is a vast variety of candidates to body representation and several ways of classifying the kind of information they are dedicated to [Longo (2017), Vignemont (2018), Chap. 8, Orbán (this volume)]. Body representations are arguably present in bodily receptors and channels of body information such as touch, vision, proprioception (which provides information about body position and movement), but also the vestibular system (responsible for balance), the nociceptive system (which registers dangerous stimuli), and the interoceptive system (which encodes optimal physiological conditions). But body representation or information can also be singled out in terms of several criteria, including access (conscious/unconscious), structural character (short/long term), format (conceptual/non-conceptual or iconic) or direction of fit (descriptive/directive). Following the model of perception-action analysis in vision, body representation is usually thought to split into representation for perception (the body image) and action (the body schema) [Paillard (1999), Gallagher (1995)]. Before this assortment — together with the many contrasts among the empirical cases used to postulate them — the task of unravelling the relevant connections towards the self is obviously challenging. For instance, while body representation for action is largely directive, non-conceptual, and unconscious, it is often taken to be the source to conceptual representation and bodily or pro-

proprioceptive awareness. Yet most body representations seem to concern only parts or aspects of the body which may not even involve a substantive form of self-representation.

This is just an example of the notable complexity awaiting the proponent of integrated approaches in this area. A similar point may be made, at the level of self-awareness, by considering the deep questions that have driven reflection by scholars on first person thought. Central among these are the following: do we need to postulate a special and primitive content — so-called *de se* content — for the first person? Is this kind of content private or shareable from subject to subject? How do we manage to communicate thoughts involving the first person? How can we explain the essential role of the first person in the explanation of action? What is the best account of the special kind of immunity we exhibit in apprehending ourselves as the subjects of our mental states? Often these questions appear to be already too demanding taken in isolation for accounts that deal with them to make readily visible the junctures linking up the first person with the different forms of self- and bodily awareness. And while integrative frameworks have indeed been proposed [e.g., Evans (1982), Brewer (1995), Cassam (1997), Bermúdez (1998), (2011)], the ultimate nature of the relation between bodily awareness and the self remains contentious [e.g., Martin (1995), (1997), Smith (2006), O'Brien (2007)].

The intricacy just pointed out is no doubt here to stay. The pieces coming out in this volume, each in its own way, get a grip on it by paying special attention to action or basic elements of the analysis of action as a key element to be considered in pulling together otherwise disconnected aspects of the bodily self such as the structure of bodily and proprioceptive awareness, the various forms of self-awareness, first person thought, memory and the way we experience ourselves in the world. Several gusts of research, old and new, seem to be blowing in precisely this direction. This is so whether theorists take action to be a basic explanans or rather a target explanandum of a full unifying account.

The emphasis on the role of action as a unitary element of the self is found prominently in the phenomenological tradition championed by Maurice Merleau-Ponty (1945). According to it, action and the practical engagement with the world is constitutive of both bodily awareness and conscious experience as a whole. The unity of the bodily self is therefore derived from bodily purposes and activities in a line of investigation that reaches out vigorously into the present day [e.g., Noë (2004), Thompson (2005), O'Regan (2011)] and which also features in this volume through McDonald's contribution.

However, the importance of action is likewise underlined in the representational tradition through the analysis of the requisites of action and action awareness. Recent developments originating in psychology and cognitive neuroscience for instance suggest that body representation is a necessary or constitutive condition on the planning, initiation and execution of physical action [e.g., Jeannerod (2006), Butterfill and Sinigaglia (2014)]. More in fact, for the target action-oriented representations or bodily affordances are not only taken to shape the intentional dimension of the self but also to shed light on the way we experience our body as our own or ‘from the inside’ [Wong (forthcoming), Vignemont (2018)].

Yet action not only offers ties between body representation, intentionality and bodily experience. When it comes to the self, action has also been taken by many as fundamental in understanding how visual experience can display self-locating information [e.g., Bermúdez (1995), Schellenberg (2007), Alsmith (2017)]. Moreover, several authors have made space for the consideration of action as playing a constitutive role in relation to the first person. For them, action and the capacities of organisms as agents are seen as key to elucidating both the notion of primitive or non-conceptual self-awareness and self-representation [Bermúdez (1998), (2011); Peacocke (2017)] as well as self-conscious first person thought and self-knowledge [Bilgrami (2006), O’Brien (2007)].

The foregoing are just some telegraphic, but representative examples of the way in which action provides a common thread for disparate aspects of the bodily self. It is however one thing to identify action as a key element to be attended to in order to bridge the many gaps in this neck of the woods. It is quite another to delineate an account that fleshes out the critical connections in ways that are both significant and plausible. The papers constituting this volume can be seen as taking up on this chief challenge in relation to a number of specific topics.

## II. THE SENSE OF AGENCY

The distinction between the sense of ownership — the experience of the body as one’s own — and the sense of agency — the experience of being the agent of an action or activity — is common currency among philosophers and cognitive scientists [e.g., Marcel (2003), Gallagher (2005), Bayne (2008)]. But what exactly is the connection between the two? In his paper ‘First Person Awareness of Agency’ José Luis Bermúdez offers an insightful attempt to provide some important parallels. In both cases, he notes, we are initially faced with a choice between

(i) accounts that invoke a distinctive personal-level phenomenology, feeling or qualitative mark (of mineness or authorship, respectively) and (ii) Anscombean accounts that do without the idea that ownership or agency ever show up in experience. Bermúdez's proposed strategy steers a middle course that fits nicely with his previous contributions and which acknowledges the positive phenomenology of authorship while accounting for it in deflationary terms. Just as a deflationary account is deemed the best option to approach our sense of ownership [Bermúdez (2011), (2018c)], so too, he suggests here, a deflationary account delivers the best analysis of the nature of the sense of agency.

Bermúdez's paper draws on a number of experimental studies in order to dissect all the elements that would seem to justify us in self-ascribing actions and indeed provide knowledge of the actions we carry out. As a result, a new articulation of the sense of agency ensues as a set of awareness conditions that may jointly ground this central and uncontroversial element of the awareness of one's actions. Bermúdez thus provides an empirical route for the account of the sources of awareness of agency that informs unreflective practice in cognitive science and breaks down all the awareness capacities displayed in action self-ascription.

If Bermúdez's approach is on the right track, a deflationary sense of agency — akin to a deflationary sense of ownership — would seem to deliver a crucial link between the experience of our body and the experience of action, but also one between the first person concept and self-awareness — as featuring in self-ascriptions of action — and the kind of awareness at work in experiencing action. Interestingly too, Bermúdez takes the latter to be anchored in distinct forms of awareness that are only operative as awareness of agency once they are tied together to the control of one's body in action.

In drawing the connection between the sense of ownership and the sense of agency in this way, Bermúdez's proposal echoes other developments that cash out the connection between the two in terms of bodily control [Gallese and Sinigaglia (2010), Vignemont (2017), (2018)]. Yet for Bermúdez, awareness of agency leads to bodily ownership via the agent's movement capacities specified through the spatial content of bodily awareness [Bermúdez (2017), (2018b)]. Awareness of one's body as our own is thus not merely awareness of the body we can directly control, but the body we can directly control given the spatial distribution of our limbs and joints. All the same, action is at the heart of the account as a catalyst that brings together forms of awareness that would otherwise remain separate for the organism. So conceived, the sense of agency and

the way we experience ourselves in action crucially shape our conception and knowledge of ourselves.

### III. THE ZERO-PERSPECTIVE ON THE SELF

Whether or not it involves self-locating abilities, perceptual experience uncontroversially displays a spatial structure that allows perspectives in a (roughly Cartesian) frame of reference centred on a point —one’s body or body region — from which to compute distances and directions. We experience, that is to say, perceptual objects from somewhere, a viewpoint or origin. While bodily awareness likewise has spatiality, it is not so clear what the spatial frame of reference for the experienced body actually is. In her contribution, Krisztina Orbán construes the spatial structure of bodily experience as doing without spatial perspectives entirely. On her view, we locate our body parts or bodily sensations somewhere in our body, but there is no location (or perceptual origin) from where one perceives such sensations.

The ultimate target of Orbán’s proposal lies however in our action capacities. These capacities not only involve a sense of agency at the basis of our self-ascriptions of action as discerned by Bermúdez. When we think of bodily awareness in the context of action, one may also find unexplored paths towards the elucidation of distinctive epistemological features that presumably nourish those pointed out in discussions of self-awareness regarding the so-called immunity to error through misidentification relative to the first person [Shoemaker (1968)].

In self-ascriptions of action, we arguably exhibit capacities to track and discriminate one’s own body in ways that allow immunity with respect to the subject the actions are ascribed to. While there might be errors, we can be vulnerable to with respect to the action or action property we are ascribing, it seems correct to suppose that, at least when normally based upon bodily awareness, we cannot be wrong about who the agent of our actions is. This might be so even if in certain experimental settings — which significantly alter the normal conditions of movement generation and feedback — it makes perfect sense to question whether the action performed is one’s own [cf. Marcel (2003), Bermúdez, this volume]. Krisztina Orbán tackles this matter — what she terms the ‘Error-Freedom Puzzle’ — by bringing out the imports of the spatial structure operative in awareness of our own body.

Other authors have also advanced the view that bodily awareness is unlike perceptual awareness because of an absence of a single viewpoint

in the former. As these authors emphasise, our body and body parts are not made available through bodily awareness from a particular location. Orbán explores however new territory by moving away from dual system approaches which open the door to frames of reference with multiple points of origin or perspectives corresponding to body parts and body-relative position [O'Shaughnessy (1980), Bermúdez (1998), (2017), Vignemont (2018)]. She suggests that a zero-perspective — a perspective from nowhere — better explains the difference between perceptual and bodily awareness in ways that allows us to elucidate the kind of epistemological privilege we have concerning the Error-freedom Puzzle. The proposal is, in particular, that a spatial structure with no spatial perspectives would make available a sole object for which failure to discriminate or track our own body is impossible and which readily accounts for this distinguishing feature of bodily awareness in action.

Orbán's views are clearly germane to Michael Martin's bounded conception of bodily awareness [Martin (1995), (1997)]. However, her discussion proceeds at the level of a primitive form of self-awareness that does not yet involve the attainment of the highest levels of self-awareness and immunity to error displayed in action-based uses of the first person concept [O'Brien (2007)]. All the same, in accounting for our special capacity to track our own body in action, Orbán's primitive self-awareness may also deliver the roots of the epistemological mark that is at work in the most complex forms of self-awareness.

#### IV. ACTING AS ONE

Deafferented subjects plausibly place one of the most fertile empirical cases for uncovering the real nature of the bodily self. These subjects suffer a rare neuropathy that results in a very remarkable loss of proprioceptive and tactile information which severely affects the experience of posture and location of the body operative in action [Cole (1991), Cole and Paillard (1995)]. Still, by compensating their deficit with vision, these subjects may retain their capacity to act and, to be sure, to self-ascribe action in paradigmatic cases. What are the lessons to be drawn from this bodily disorder in relation to the conception we have of ourselves?

One sort of suggestion readily comes to mind: proprioception and the kind of bodily awareness typically displayed in action is, pace the views put forward by O'Shaughnessy (1980), not fundamental for the individual and essentially replaceable with other forms of awareness and visual information about the position of one's body and limbs. This

would suggest, in turn, that the bond between the body — as manifested in proprioceptive awareness — and the self-conscious agent is severely weakened or qualified. In her contribution to this volume, Kathleen A. Howe challenges this way of looking at things by offering a rich analysis of the full significance of the experience of subjects that act deafferently.

To use Hong Yu Wong's suggestive metaphor, unlike what happens in ordinary bodily action, deafferented subjects act with their bodies 'like a form of remote control' [Wong (2015), (forthcoming)]. But the metaphor does not by itself allow us to discern all that the deafferented subjects lose, as subjects practically engaged with the world, in virtue of experiencing their body in the special way they do. Here, the spatial structure of bodily awareness is once again crucial for a full diagnosis.

Howe spells out the deepest sense of Wong's metaphor by unearthing the tight connection that exists between the egocentric structure characteristic of perceptual awareness and the way proprioceptive awareness shapes that structure by providing a 'bodily standpoint' of the subject 'as she feels herself to be'. On this account, and even if there is a clear distinction between the way in which visual and proprioceptive awareness are organised, they become integrated in a common space for the concrete identification of the possibilities of action that are open to the agent. By contrast, in losing their proprioceptive awareness, deafferented subjects have a perceptual standpoint that is as such deprived of any practical significance and, hence, has to be supplemented by visually locating their bodies with respect to the world in order to act.

By analysing the capacities that deafferented subjects lack, Howe outlines an integrative view that tacks together bodily awareness, perceptual awareness and the multimodal information made available through them in action which, in turn, illuminates the significance of our capacity to act directly through bodily awareness for the fundamental conception of ourselves as practical agents. Proprioceptive awareness is, in a nutshell, revealed to be central to the unity of the self because it allows the immediate recognition of what is open to us to do given what we perceive.

## V. A PRISMATIC ACCOUNT OF TRAUMA

When engaged in the project of disentangling the connections between body, action and the first person, a promising strategy is to focus on a particular phenomenon in which the normal tie between these elements breaks down or is put to the test. This is precisely the role that action in deafferented subjects, as addressed by Howe and others, has been

made to play. There is however a great variety of neurological and psychiatric and bodily disorders that can serve as invaluable data against which to build and contrast new theories.

In her piece, MaryCatherine McDonald draws attention to the disruptive effects of Post-Traumatic Stress Disorder (PTSD). According to McDonald, and in harmony with the kind of complexity identified earlier in this note, a complete story capable of integrating all the elements at play in the study of traumatic experience has to take into consideration the knowledge garnered by different disciplines. This is the idea of a 'prismatic account' where the tight interaction between psychology, neurophysiology and philosophy can be used to yield a satisfactory analysis of the multifaceted relationship between body and self. McDonald's interdisciplinary approach also emphasises the way in which phenomenology — with its focus on the dynamic interaction between mind, body and action in the world — helps us reframe and more deeply understand traumatic symptoms.

To begin with, psychology is likely to provide the best description of the phenomenon at stake from the point of view of its diagnosis. McDonald focuses, more precisely, on the impact that trauma has on memory capacities. Patients undergoing traumatic memories exhibit a distinctive pattern of behaviour and symptoms characterised by very intense, intrusive and persistent retrievals of past experiences that erupt into the present.

There are, McDonald notes, also important insights to be gained from neurophysiological research. It helps us to see, in particular, the close connection between body or body mechanisms and the distinctive behaviour that accompanies traumatic disorders. In extremely threatening situations in which the subject needs to immediately react to a given perceptual input, the information is not appropriately stored through the hippocampal system responsible for explicit and consciously accessible memories. The ensuing bodily response increases the chances of survival but results in an implicit memory that reappears later in the life of the individual through highly distressing episodes in which subjects literally relive the events causing the trauma. Under this light, we can see that the anomalies observed at the mental and psychological level have a root in the body and the way it copes with the world in order to act.

But how do the psychological and neurophysiological data bear on the conception of ourselves as subjects? To answer this question the picture needs to be completed, McDonald suggests, via the very phenomenology of traumatic experience which in this case is approached with the

aid of Merleau-Ponty's framework. According to these considerations, not merely is the body in action and the mind affected by trauma. In addition, the person as a whole suffers a devastating impact by becoming fundamentally detached from the environment and deprived of a sense of familiarity with it. McDonald's analysis makes therefore visible how traumatic experience — originally caused by disruptions in the sensorimotor mechanisms responsible for our action and action control — 'stamps the individual's world with a meaning' quite beyond recurrent patterns of behaviour and neurophysiology, and thus crucially alters the conception these subjects have of themselves as agents inhabiting a world they can trust.

## VI. FINAL REMARKS

This is surely only a glimpse of the many ways in which theorists may seek to articulate views that reflect or start to untangle the full multi-level, and in this sense indeed prismatic junctures of body, self and action. They — together with the current thrust of various other accounts — might seem to suggest that action, action awareness and action-oriented information are called to play a key role in the full provision of a unifying framework for the bodily self.

Many questions remain wide open, however. To begin with, it is not clear whether action-related notions should figure as explanatory primitives in our theory or should rather themselves be accounted for in terms of more primitive notions not themselves necessarily tied to action. Furthermore, even if we restrict attention to action itself, we may still wonder whether our preferred account should ultimately invoke a notion of body representation with a distinctive sensorimotor format that explains our agentic phenomenology, or whether it might rather be enough to locate one's analysis already at the level of the phenomenology characteristic of the experience of one's body in action and conscious agentic expectations.

One must, moreover, be careful not to overstate the connection between action and body information. It is not only that they certainly come apart in well-entrenched distinctions such as the distinction between body image and body schema or the distinction between the sense of ownership and the sense of agency earlier alluded to. In addition, and as deafferented subjects vividly illustrate, action does not guarantee that bodily information is directly accessible to the thinking subject. In fact, limited bodily awareness in action seems to be the rule rather than the

exception [Founeret and Jeannerod (1998)]. In short, to claim that action is key to understanding the bond between the self and the body is therefore not yet to accept that action is sufficient for this bond to be present, nor is it to suggest that the bond will feature in all sorts of bodily awareness and all sorts of actions.

If not more, I hope that this special issue will shed some new light and encourage reflection on this set of questions as well as others that must be left for future research. It is however time for me to stop and leave the reader with the pieces forming the volume. Before I do, I would like to warmly thank all the contributors, and especially José Luis Bermúdez for his wholehearted and encouraging support to this project from very early stages. I am also very grateful to the very reputed scholars who have participated as referees and which discretion does not allow me to mention here. I should also give special thanks to Luis Valdés, editor in chief of the journal **teorema**, for inviting me to edit this special issue and for his invaluable patience all along. This initiative has benefited from the support of the Secretary for Universities and Research of the Department of Economy and Knowledge (Government of Catalonia) as well as the Ministry of Economy and Competitiveness (Government of Spain) and the European Union through the research projects FFI2016-80588-R and FFI2015-63892-P (MINECO, AEI/FEDER, EU).

*Logos Research Group/BLAP (Barcelona Institute for Analytic Philosophy)/  
University of Barcelona  
Department of Philosophy  
Montalegre 6 08001, Barcelona, Spain  
E-mail: vmverdejo@gmail.com*

#### REFERENCES

- ALSMITH, A. (2017), 'Perspectival Structure and Agentive Self-Location', in F. de Vignemont and A. Alsmith (eds.), *The Subject's Matter*, Cambridge, MA: MIT Press, pp. 263-287.
- BAYNE, T. (2008), 'The Phenomenology of Agency', *Philosophy Compass* 3(1), pp. 182-202.
- BERMÚDEZ, J. L. (1995), 'Ecological Perception and the Notion of a Nonconceptual Point of View', in J. L. Bermúdez, A. Marcel and N. Eilan (eds.) *The Body and the Self*. Cambridge, MA: MIT Press, pp. 153-174.
- (1998), *The Paradox of Self-Consciousness*, Cambridge, MA: MIT Press.

- (2011), ‘Bodily Awareness and Self-Consciousness’, in S. Gallagher (ed.), *Oxford Handbook of the Self*; Oxford, OUP, pp. 157-179.
- (2017), ‘Ownership and the Space of the Body’, in Vignemont F. and A. Alsmith (eds.), *The Subject’s Matter*; Cambridge MA: MIT Press, pp. 117-144.
- (2018a), *The Bodily Self*; Cambridge, MA: MIT Press.
- (2018b), ‘Bodily Ownership, Psychological Ownership, and Psychopathology’, Review of *Philosophy and Psychology*, <<https://doi.org/10.1007/s13164-018-0406-3>>.
- (2018c), ‘Bodily Ownership, Bodily Awareness, and Knowledge without Observation’, in J.L. Bermúdez (eds.), *The Bodily Self*; Cambridge MA, MIT Press, pp. 183-202.
- BERMÚDEZ, J.L., MARCEL, A., and EILAN, N. (eds.) (1995), *The Body and the Self*; Cambridge, MA: MIT Press.
- BILGRAMI, A. (2006), *Self-Knowledge and Resentment*; Cambridge, MA: Harvard University Press.
- BREWER, B. (1995), ‘Bodily Awareness and the Self’, in J. L. Bermúdez, A. Marcel, and N. Eilan (eds.), *The Body and the Self*; Cambridge, MA: MIT Press, pp. 291–309.
- BUTTERFILL, S. and SINIGAGLIA, C. (2014), ‘Intention and Motor Representation in Purposive Action’, *Philosophy and Phenomenological Research* 88(1), pp. 119-145.
- CASSAM, Q. (1997), *Self and World*; Oxford: Oxford University Press.
- COLE, J. (1991), *Pride and the Daily Marathon*; London: Duckworth.
- COLE, J. and PAILLARD, J. (1995), ‘Living without Touch and Peripheral Information about Body Position and Movement: Studies with Deafferented Subjects’, in J.L. Bermudez, T. Marcel, N. Eilan, (eds.), *The Body and the Self*; Cambridge, MA: MIT Press, pp. 245-266.
- DE VIGNEMONT, F. (2018), *Mind the Body*; Oxford: OUP.
- DE VIGNEMONT, F. and ALSMITH, A. (2017), *The Subject’s Matter*; Cambridge, MA: MIT Press.
- EVANS, G. (1982), *The Varieties of Reference*; Oxford: Oxford University Press.
- FOURNERET, P. and JEANNEROD, M. (1998), ‘Limited Conscious Monitoring of Motor Performance in Normal Subjects’, *Neuropsychologia* 36(11), pp. 1133–1140.
- GALLAGHER, S. (1995), ‘Body Schema and Intentionality’, in J. L. Bermudez, A. Marcel, and N. Eilan (eds.), *The Body and the Self*; Cambridge, MA: MIT Press, pp. 225-244.
- (2005), *How the Body Shapes the Mind*; New York: Oxford University Press.
- GALLESE, V. and SINIGAGLIA, C. (2010), ‘The Bodily Self as Power for Action’, *Neuropsychologia* 48(3), pp. 746–55.
- GUILLOT, M. and GARCÍA-CARPINTERO, M. (forthcoming), *The Sense of Mineness*; Oxford: Oxford University Press.
- JANNEAROD, M. (2006), *Motor Cognition: What Actions Tell the Self*; Oxford: Oxford University Press.

- LONGO, M.R. (2017), 'Body Representations and the Sense of Self', in F. de Vignemont and A. Alsmith (eds.), *The Subject's Matter*; Cambridge, MA: MIT Press.
- MARCEL, A. (2003), 'The Sense of Agency: Awareness and Ownership of Action', in J. Roessler and N. Eilan (eds.), *Agency and Self-Awareness*; Oxford: Oxford University Press, pp. 48-93.
- MARTIN, M. G. F. (1995), 'Bodily Awareness: A Sense of Ownership', in J.L. Bermudez, T. Marcel, N. Eilan, (eds.), *The Body and the Self*; Cambridge, MA: MIT Press, pp. 267-290.
- (1997), 'Self-Observation', *European Journal of Philosophy* 5(2), pp. 119-140.
- MERLEAU-PONTY, M. (1945), *Phénoménologie de la perception*. Paris: Gallimard.
- NOË, A. (2004), *Action in Perception*; Cambridge, MA: MIT Press.
- O'BRIEN, L. (2007), *Self-Knowing Agents*; Oxford: Oxford University Press.
- O'REGAN, K. (2011), *Why Red Doesn't Sound Like a Bell*; Oxford: Oxford University Press.
- O'SHAUGHNESSY, B. (1980), *The Will*, Vol. 1. Cambridge: Cambridge University Press.
- PAILLARD, J. (1999), 'Body Schema and Body Image: A Double Dissociation in Deafferented Patients', in G.N. Gantchev, S. Mori and J. Massion (eds.), *Motor Control Today and Tomorrow*; Sofia, Bulgaria: Academic Publishing House, pp. 197-214.
- PEACOCKE, C. (2017), 'Philosophical Reflections on the First Person, the Body, and Agency', F. Vignemont and A. Alsmith (eds.), *The Subject's Matter*; Cambridge, MA: MIT Press, pp. 289-310.
- SHELLENBERG, S. (2007), 'Action and Self-Location in Perception', *Mind* 116(463), pp. 603-632.
- SHOEMAKER, S. (1968), 'Self-Reference and Self-awareness', *Journal of Philosophy* 65(19), pp. 555-567.
- SMITH, J. (2006), 'Bodily Awareness, Imagination, and the Self', *European Journal of Philosophy* 14(1), pp. 49-68.
- THOMPSON, E. (2005), 'Sensorimotor Subjectivity and the Enactive Approach to Experience', *Phenomenology and the Cognitive Sciences* 4(4), pp. 407-27.
- WONG, H. Y. (2015), 'On the Significance of Bodily Awareness for Action', *Philosophical Quarterly* 65(261), pp. 790-812.
- (forthcoming) *Embodied Agency*; Oxford: Oxford University Press.