

The shared know-how in *Linguistic Bodies*

Abstract: The authors of *Linguistic Bodies* appeal to shared know-how to explain the social and participatory interactions upon which linguistic skills and agency rest. However, some issues lurk around the notion of shared know-how and require attention and clarification. In particular, one issue concerns the agent behind the shared know-how, a second one concerns whether shared know-how can be reducible to individual know-how or not. In this paper, I sustain that there is no single answer to the first issue; depending on the case, shared know-how can belong to the participants of a social activity or to the system the participants bring forth together. In relation to the second issue, I sustain, following the authors, a non-reductive account of shared know-how. I also suggest that responsiveness to others, which is a fundamental element of shared know-how, can be extended by perceptual learning.

Keywords: shared know-how, participatory sense-making, social agency, responsiveness to others, enactivism.

Introduction

Ezequiel Di Paolo, Elena Cuffari and Hanne De Jaegher, authors of *Linguistic Bodies: The Continuity between Life and Language* (2018), provide us with an exemplar work within the enactive research program, putting forward in a clear way, step by step, a proposal for scaling up enactivist explanations to deal with the so called higher-order cognition, in particular, the use of language. At the same time, and this is another virtue of this book, the authors also show, as Dreyfus urges us to do (2006, p. 48)¹, how our understanding of language may also be scaled down. We are invited to see language under new lights by removing intellectualist baggage that works as an obstacle to understanding the phenomenon in question. Language is not to be seen as disconnected from our more basic and embodied skills, on the contrary, it emerges from the social interaction between sensorimotor bodies.

In order to achieve the view that linguist bodies “are precarious dynamic processes of navigating the primordial tension of participatory sense-making in dialogic contexts,” (Di Paolo et al., 2018, p. 215) the authors show first how sensorimotor bodies become intersubjective bodies and only then linguistic bodies. Along this development, the category of shared know-how fulfills an

¹ As he points out, “The time is ripe to put aside the outmoded opposition between analytic and continental philosophy, and to begin the challenging collaborative task of showing how our conceptual capacities grow out of our nonconceptual ones—how the ground floor of pure perception and receptive coping supports the conceptual upper stories of the edifice of knowledge.” (2006, pp. 48–49)

important explanatory job. Linguistic actions is a specific kind of social action which in turn is a specific kind of participatory sense-making. But how participatory sense-making is possible? The participants need to coordinate and coregulate themselves to jointly produce a social action. The authors of *Linguistic Bodies* appeal to shared know-how to explain how coregulation works. However, some issues lurk around the notion of shared know-how and require attention and clarification. In particular, one issue concerns the agent behind the shared know-how, a second one concerns whether shared know-how can be reducible to individual know-how or not. As to the first issue, I sustain that there is no single answer to it; depending on the case, shared know-how can belong to participants or to the system brought forth by the participants together. In relation to the second issue, I sustain, following the authors, a non-reductive account of shared know-how. I also suggest that responsiveness to others, which is a fundamental element of shared know-how, can be augmented or extended by perceptual learning.

This paper is organized as follows. In Sections 2 and 3, I provide a context for understanding the role that the notion of shared know-how fulfills in *Linguistic Bodies*. In Section 4, I raise some concerns about the agent behind the shared know-how, I discuss how the authors answer them and point out some remaining worries. In Section 5, I discuss the structure of shared know-how and put forward Birch's reductive view that shared know-how can be explained as distributed individual know-how. In Section 6, I put forward the authors' non-reductive view of shared know-how and discuss the relevance of responsiveness to others for any view of shared know-how. The dispute between reductive and non-reductive views of shared know-how depends on how one construes responsiveness to others. In Section 7, I follow the authors in sustaining that shared know-how can be an emergent skill. Accordingly, I also provide a sketch of how responsiveness to others can be augmented through perceptual learning. Finally, to resume the remaining worries from Section 4, I sustain that there no single answer to the question about who is the agent behind shared know-how.

Varieties of know-how

It is not a surprise that the category of *know-how* has explanatory power for enactivism. If Ryle is correct, know-how is a kind of embodied knowledge that does not boil down to propositional knowledge, in fact, the latter depends on the former (1945, p. 15). As a set of complex

dispositions, know-how is flexible, adaptive, situated, relative to a task and ascribable to the agent as a whole.² We refer to this kind of knowledge when we want to explain or understand intelligent actions and performances of an individual. Accordingly, know-how is also expected to be involved in the explanation of linguistic actions.

Despite not appearing in the Index of the book, the term “know-how” is frequently used, at different levels of explanation, in the articulation of the model for linguistic bodies. Along the book, the authors appeal to different types of know-how, such as bodily know-how (2018, p. 48), shared know-how (2018, p. 75), interactive know-how (2018, p. 76), embodied know-how (2018, p. 151), pragmatic know-how (2018, p. 166), dialogic know-how (2018, p. 183), linguistic know-how (2018, p. 206), sensorimotor know-how (2018, p. 206), conversational know-how (2018, p. 243), prereflective know-how (2018, p. 254), grammatical know-how (2018, p. 291), and ethical know-how (2018, p. 313). As the notion of know-how is itself disputable—see for instance the debate between intellectualism and anti-intellectualism (Cath, 2019)—one may wonder how central the notion of know-how is for the account provided by the authors, although this is not my concern here.

The shared know-how

The first reference to *shared know-how* shows up in Chapter Four, where the authors discuss and illuminate the passage from sensorimotor bodies to intersubjective bodies. Shared know-how is mobilized to explain a specific kind of participatory sense-making, in particular joint activity that generates social understanding that is not reducible to the sum of participants’ individual understanding. Participatory sense-making is social understanding not because it is about social events but mainly because it is “*performed* socially, *enacted* as a shared practice” (Di Paolo et al., 2018, pp. 74, 80). Shared know-how is then necessary to explain how two or more individuals coordinate their actions to produce participatory sense-making. As the authors point out:

² In fact, if we construe Ryle’s philosophy of mind as a type of holistic behaviorism according to which mental categories should be construed in terms of abilities and actions already imbued with intentionality due to a history of interactions in a particular socio-historical context, avoiding in this way reductive behaviorism, then Ryle’s philosophy is closer to enactivism than one would otherwise assume (Alksnis and Reynolds, 2019). For comparison, see the organicistic view of habits put forward by Barandiaran and Di Paolo (Barandiaran and Di Paolo, 2014).

[S]hared know-how is jointly constructed between the participants. This shared know-how does not amount to the sum of the individuals' know-hows nor does it strictly "belong" to any of the participants. It involves instead the practice of coordinating sensorimotor schemes together, navigating breakdowns, and it belongs to the system the participants bring forth together: the dyad, the group, the family, the community, and so on. (Di Paolo et al., 2018, p. 75)

To understand the role of shared know-how, we need first to understand participatory sense-making and single out the specific kind of participatory sense-making that requires shared know-how. Examples of participatory sense-making are (1) collaborating in a joint research project, (2) reaching an agreement after group negotiation, (3) making a shopping list together (De Jaegher and Di Paolo, 2007, p. 500). Of course, all these examples are complex social practices that have their own developmental history of interactions. A simpler example would be (4) the activity of jointly attending to the same object, providing a significance it hasn't before: a common ground for further activities of cooperation. Another simple example is (5) the situation in a narrow corridor when two participants coming from opposite directions have to cross each other and they get stuck in alternate lateral movements that prevent them to carry on walking (2007, p. 493). In these situations, the participatory activity of sense-making brings about an autonomous and self-sustained process, that is, this social and interactive process gains a life of its own, without at the same time suppressing the autonomy of the participants (De Jaegher and Di Paolo, 2007, p. 493; Di Paolo et al., 2018, pp. 70–71). As an autonomous system, this self-sustained process needs to regulate itself to maintain its identity over time. In fact, it is by having this capacity that an autonomous system exhibits agency, which is defined by the authors as "an autonomous system capable of regulating its coupling with the environment according to its own vital norms" (Di Paolo et al., 2018, p. 38).

The coordination patterns that bring forth the autonomous systems (1)-(5) affect in different ways the sense-making processes of their participants. In some cases, like in (5), the sense-making processes remain an individual activity, the participants are causally affected by the coordination patterns, but they are not trying to regulate these patterns together. In other cases, like in (1) and (2), the participants become open to a new domain of interaction, they "fully and directly participate in a joint process of sense-making and the whole sense-making activity becomes a shared one" (De Jaegher and Di Paolo, 2007, p. 497). In case (5) we probably have only regulation but in cases (1) e (2) we have *social regulation* enacted by the participatory sense-making activity. Thus, social interaction emerges as a specific kind of participatory sense-

making. It is at this stage, more precisely, where shared know-how enters to fulfill its explanatory job. It makes social regulation possible.

The agent behind the shared know-how

At this juncture, however, we may start to face a difficulty. Whatever the complex relations of the social process that emerges from participatory sense-making, they are instantiated partially in the participants bodies. Despite the alleged autonomy and the relative independence of the social process from its participants, the former does not exist separated from the latter. But then, who is responsible for the shared know-how that regulates the social interaction? We cannot forget that knowing-how, differently from blind habits, is an agent notion (Ryle, 1945, p. 15). In the quotation above, the authors claim that the shared know-how belongs to the system the participants bring forth together. Thus, the system is supposedly the agent behind the shared know-how. The agency in question, however, cannot be reducible to the participants' agency, otherwise the shared know-how would also be reducible to the sum of individual's know-how, but it cannot also depart from participants' agency altogether, otherwise we would need to posit an agent completely independent from the participants to embody the shared know-how. According to the authors, the solution is to see the regulation of social interaction as *coregulation* enacted by the participants themselves, not as individual but as *social* agents. As they point out:

Coregulation is directed at managing the mismatches between the individual sense-making of all participants and the patterns that emerge in the interactive dynamics. This is what we call *social agency*, a specific kind of participatory sense-making whereby the agents not only regulate their own couplings and influence other agents, but they also jointly regulate the mutual coupling following norms that pertain to the interactive situation, such as being sensitive to interactive breakdowns and attempting to recover from them jointly with other participants. (Di Paolo et al., 2018, p. 146)

Thus, the system that can possess shared know-how is one that the participants bring forth together in virtue not of their individual agencies but of their social agencies. This solution requires that different kinds or domains of agency can be found in the same participants. According to the authors, we need to take seriously the emergence of new domains of sensibility in the participants' sense-making activity in virtue of their history of interactions. An agent who regulates her own couplings may be at the same time a participant who, together with other participants, jointly regulates their mutual couplings. Notice that although social agency takes

residence in the individual participant, it is a kind of agency that a participant can only manifest while aiming to act with other participants. As the authors point out, “social agency is always strictly a joint regulation of the interactive coupling” (Di Paolo et al., 2018, p. 168).

As we are warned from the beginning of *Linguistic Bodies* that the book is about interrelated types of bodies, maybe billions of them (Di Paolo et al., 2018, p. 88), the claim that there are different domains of agency does not come as a surprise. Of course, there are going to be tensions between the different bodies and agencies that cohabit the individual diversity that each one of us is (2018, p. 139), and this raises worries about how these tensions may be addressed. I will not pursue this path here and will instead stay focused on the discussion about the shared know-how.³

Yet, some worries remain. First, if the social agency pertains to the participants, why the shared know-how does belong to the system they bring forth together rather than to the participants themselves? In case of failure in the exercise of a shared know-how, it may be reasonable, in some situations, to take a particular participant as more responsible for the failure than others. But this would be at odds with the assumption that the system is the agent behind the shared know-how. Second, as the participatory sense-making activity has allegedly some autonomy in relation to the individual sense-making of the participants, it is reasonable to assume that the system the participants bring forth together enacts a world of significance for itself. Does it thereby have experience? To answer these questions, we need to delve into the structure of the shared know-how.

The structure of shared know-how

As we saw, shared know-how emerges from participatory interactions. Consider, for instance, the social act of giving (Di Paolo et al., 2018, p. 145), discussed by the authors. This act can be initiated by a participant but cannot be finished by her alone. The act of giving is constituted by at least two partial acts: (1) the partial act of offering something to someone else and (2) the

³ In any case, it is important to emphasize that this issue about different types of agencies and bodies has an important role in the development of the model for linguistic agency, especially because linguistic phenomenon is proposed to be construed as a manifestation or an action of linguistic bodies. In the same way that social agency is a specific kind of participatory sense-making, linguistic agency is a specific kind of social agency. Thus, seeing how social bodies emerge from participatory sense-making is a crucial step to show how linguistic bodies emerge from specific social interactions (Di Paolo et al. 2018, pp. 191–198).

partial act of accepting something from someone else. Without the joint coordination of these partial actions in a social interaction, there is no way to give rise to the act of giving, which is jointly enacted. The social practice of giving has its own life and history, its interactive pattern stabilizes only after recurrent social interactions in similar situations through which participants' contributions are selected for forming a balanced and coordinated set of partial acts (2018, p. 151). This is the general scheme, which allows for cultural, historical and local variations.

Let us point out some further examples of shared know-how that will be relevant later to the issue of who is the agent behind shared know-how. In order to use efficiently a long two-handled saw, two individuals need to coordinate their movements, and it may be reasonable to predict that a pair that has been doing this for a while does it better than a beginner pair. Within certain limits, any of the individuals, for instance, is able to compensate an eventual disruption from the other. Conjoined twins that have two unquestionably independent brains learn nevertheless to coordinate the limbs under their control to move the single body they share. In some cases, they “are able to unconsciously and effortlessly coordinate their movements to a degree that allows them to do such things as play softball” (Volz and Gazzaniga, 2017, p. 2055). Finally, during a match of football, a team may take advantage of the situation in the pitch to launch a very well coordinated counterattack. The better trained the team, the more coordinated and efficient the counterattack. In all these cases, shared know-how is involved in the joint production of a social act.

We may now ask: what is the structure of shared know-how, and how is it related to individual know-how? The aim of shared know-how is the performance of a social act, such as giving something to someone else, cutting a tree together, moving a single physical body together or counterattacking the other team. The enactment of a social act depends on the enactment of the partial acts that constitute the former. The enactments of partial acts, in turn, need to be coordinated for the successful production of the social act. Finally, this coordination is something that the participants jointly enact. As there is no completely independent social agent, nor a single individual regulating alone the social interaction, the social agency and the shared know-how must be in some way anchored in participant's skills without being reducible to them. The question then is how participants contribute to and make *coregulation* possible.

One suggestion, following Jonathan Birch (Birch, 2018), is that the shared know-how behind coregulation should be conceived as *distributed* know-how. Each participant has a constitutive part of the shared know-how by knowing how to perform a partial act. It's not necessary that each participant knows how to perform all partial acts that constitute a social act. Consider again the case of the act of giving. One may know how to offer something and yet behaves in a clumsy way if in the receiver position (e.g. they pertain to a very privileged group whose members rarely are invited to the position of a receiver). In this sense, the shared know-how may be in some cases strongly distributed in that no participant needs to know how to perform all partial acts that constitute a social act. However, each participant needs to know how to perform at least one partial act. To account for coregulation, it's also necessary that each participant is able to predict and monitor her own actions as well as actions of other participants and to make online adjustments for keeping the social interaction in its correct course. Thus, according to Birch, shared know-how should be conceived as know-how distributed among different participants who are socially responsive to each other.

The social dimension of shared know-how

One may wonder whether Birch's account of shared know-how is a reductive one in that it depends only on individual know-how, even though in a distributed way. This would not be in line with what the authors claim in *Linguistic Bodies*. Jonathan Birch characterizes his account of what he calls *joint know-how* as reductive (Birch, 2018, p. 3339). One requirement he puts forward for joint know-how is that a participant "knows how to predict, monitor and make failure-averting adjustments in response to" another participant's performance, provided the latter performs her action "in a way that is actively coordination-enabling for" the former participant (2018, p. 3339). As I understand this requirement, social responsiveness is a condition for joint or shared know-how. Coregulation requires social beings who are responsive to each other if not as full social agents, then at least as interactive and participatory agents.

The question then comes down to whether social responsiveness can be explained at the level of the individual only. It is important to notice that when we talk about the social dimension of shared know-how we may mean two different things. As said before, participatory sense-making is characterized by the authors as social not because it is about social events but because it is

enacted jointly, because two or more people are coregulating their partial actions to perform an action jointly, like lifting a log together. At the same time, as I have been emphasizing, coregulating seems to require responsiveness to others as interactive and participatory agents. The notion of affordance may help us here. What I mean by *responsiveness to the other* is that participants need to be able to perceive some social affordances, that is, possibilities of action that others offer during an interaction (Carvalho, 2019, p. 207).⁴ When engaged in coregulation, participants show up in each other's experiences as affording interaction and collaboration, different types of collaboration, depending on the situation. Thus, although coregulation does not need to be about social events, it does require social cognition, perception of what the other affords as a participatory agent. And here is the crux of the matter, although we cannot understand the ability to perceive social affordances, opportunities for cooperation, without taking in consideration our social environment (Heft, 2007), this ability might not itself be shared or distributed. It is a type of ability that seems to belong to a single agent. If this is the case, then coregulation or social regulation can be explained at the level of the individual.

As mentioned at the beginning, the authors claim that “shared know-how does not amount to the sum of the individuals' know-hows nor does it strictly ‘belong’ to any of the participants.” Because shared know-how is distributed, it doesn't belong to any of the participants in particular, but this doesn't seem to be sufficient to claim that it does not amount to the sum of the individuals' know-hows, the know-how that each participant has of how to perform a partial act in a *responsive way*. A reductionist regarding shared know-how could claim that coregulation requires nothing more than know-how of partial acts possessed by individuals that are minimally responsive to each other's affordances. The ability to perceive social affordances, which is required to account for responsiveness to others, does not seem to be shared, even though it may be legitimately called a social ability.

The authors of *Linguistic Bodies* might respond, as in fact they do, that responsiveness to others is itself constituted through an interactive process and, therefore, is a species of shared know-how; as they point out, “sensitivity for others and for the self is gradually built into the skills and capacities of the participants as we move through the stages of the model” (Di Paolo et al., 2018,

⁴ At a level even more basic, participants need also to be able to have *joint perception*, “perception of the environment ... that is enjoyed by two individuals together” (Seemann, 2019, p. 2). This is not perception of other's affordances but of shared objects. Thus, responsiveness to others requires both perception of what others afford and joint perception.

p. 162). According to Martens and Schlicht, however, this non-reductive account aims for the impossible since it assumes what it is supposed to explain. As they point out, “accounts aiming to explain social cognition in terms of joint action are ultimately circular since joint action of the relevant kind presupposes social cognition of a basic kind” (Martens and Schlicht, 2018, p. 246). For Martens and Schlicht, responsiveness to others is so basic that it cannot be the result of a history of interactions. Actually, these interactions depends on previous responsiveness to others to take place.

Learning to be responsive to others

We have raised two intertwined questions along this paper. One is whether basic responsiveness to others can emerge from a history of interactions between beings who do not have yet any social capability, and the other—as we saw in Section Four—is whether shared know-how belongs to the participants or to the system that the participants bring forth together. It’s possible that shared know-how but not responsiveness to others is emergent—it is learned instead of being the product of natural selection. Besides, whether shared know-how is emergent or not does not seem to depend on whether it belongs to participants or to the system the participants bring forth together. I also do not think that there is a clear-cut answer to the second question.

First, I do not think that the authors of *Linguistic Bodies* are or need to be committed to the claim that even the *most* basic kind of responsiveness to others is a capacity that one learns through interactions. Indeed, they claim that “we assume the most basic form of sensitivity [for others] to start with, which is almost no sensitivity at all” (Di Paolo et al., 2018, p. 162). The adverb “almost” does the trick here. In my view, their point is that the more elaborate responsiveness to others is learned and culturally shaped, but this does not rule out basic non-emergent (innate) forms of responsiveness to others. As they point out, “the model shows how from a stripped-down version of participatory sense-making (i.e., an interactive situation between autonomous agents without any other concrete presuppositions) it is possible to elaborate increasingly concrete stages involving different kinds of social agency.” (Di Paolo et al., 2018, p. 161). This is compatible with assuming participants with a minimal openness to others. Besides, it’s not clear in this debate what should count as basic or minimal responsiveness to others. For instance, for getting more elaborate kinds of social agency through a history of interactions it may be

enough to have as a starting point a non-emergent disposition to look for faces and patterns of behaviors. This disposition may be sufficient to start an emergent coordination among participants that will make possible a stripped-down version of participatory sense-making. Finally, there has been accumulating evidence that cognitive abilities such as imitation, mindreading, and metacognition, however one construes them, arise in individual development and are better explained by cultural selection (Heyes et al., 2020). The same may apply to more elaborate forms of responsiveness to others.

Second, I submit that responsiveness to other can be augmented through perceptual learning. Interactions can be embodied in the same way that tools are embodied to extend our perceptual capacities. As it is lively discussed by Merleau-Ponty (2012, pp. 144–46, 153–155) and Polanyi (2009, pp. 12–14), a blind person habituates to use a cane to perceive their surroundings *with* the cane. It is true that initially the blind person feels the cane with their hand—the cane pressing their skin. After exploring, however, the world with the cane for a while, becoming familiar with its length, shape and weight, and how it absorbs impacts, the blind person starts to perceive features of the objects with the cane. By habituating and incorporating the cane, the blind person dilates their being in the world (Merleau-Ponty, 2012, p. 145), new perceptions emerge and the blind person is now able to attend to what is within the reach of their cane. A new perceptual skill is thus acquired.

Although I can only offer a sketch here, I think that the ability of social perception may emerge or be extended in a similar fashion. By exploring others with different interactions in different situations and observing how they react and reciprocate, a participant can acquire the ability to directly attend to others' possibilities for interaction. After becoming familiarized with a certain person, certain groups of people, or others in general, a participant stops attending to their own interactions and starts to perceive *with* these interactions what others afford. Actually, it is not only a process of familiarization but also of coupling since the participant also selects for future interactions the interventions that were more successful in keeping coordination. This in turn cannot be thought without the active role of the other participant who is also making parallel adjustments and in this way helping both to become coupled to each other. Thus, the agents embody their own interactions to extend their perceptual power, allowing the emergence of increasingly responsiveness to others. This extension of perceptual power is something that both

participants achieve together. This in turn paves the way for the emergence of elaborate forms of social agency and coregulation. If this is the case, individual processes alone cannot account for either responsiveness to other or shared know-how.

Regarding the second question, I do not think that there is a unique answer to all cases of shared know-how. In some cases, the shared know-how may belong to the system, but in others, it may belong to **the** participants, that is, their individual know-how may be sufficient to explain coregulation and the production of the corresponding social act. It all depends on whether the system the participants bring forth possesses enough agency to be responsible for the shared know-how in question. It may not be easy to tell which case is which. The degree of coupling among the participants and the observers' dispositions to ascribe merit and demerit to participants or to the system to explain their joint performances are reasonable criteria to distinguish between these cases.

A clear case of shared know-how that belongs to the participants is the situation of a pair cutting a tree with a long two-handed saw, even if we assume that they are an experienced pair. Despite the high degree of their coupling while they are using the two-handed saw, the majority of the breakdowns may be traceable to one or another participant. It may well be the case, in some situations, that one of them deserves more credit than the other for the successful act of cutting a tree. Thus, it does not seem that the system formed by the two participants and the two-handed saw has sufficient agency to be responsible for the shared know-how in question.

In the other extreme, we have the case of a professional team of football performing a counterattack. Of course, the blame for an unsuccessful counterattack may, depending on what happens in the pitch, be ascribed to a single player, but normally it is the team that, as a collective, may perform poorly and then deserve the blame. Besides, in the case of professional teams, there is a new domain of social agency in play, for the players also share an embodied social identity (Weichold and Thonhauser, 2020, p. 17). During a match, they act as a collective. It is the team that *sees* an opportunity for a counterattack—in virtue of rigorous training the team is attuned to certain configurations in the pitch and therefore may have experience of it—, not an individual player.⁵ Here the system of players as a whole seems to have enough agency to

⁵ Or one can make the weaker claim that the team only detects or acts upon an opportunity for a counterattack, since having agency might not be equivalent to have subjectivity or a first-person perspective. One reason for this is that a team lacks what would be the equivalent to an interoceptive system that is allegedly necessary for subjectivity

deserve merit or demerit for respectively good or poor joint performances. Thus, the corresponding shared know-how belongs to the system.

The case of the conjoined twins with separated brains may be more complicated. On the one hand, they have different personalities, desires and sets of beliefs. They seem to be two persons trying to dwell and share the same physical body. And despite the fact that they are seen and described by the interactive kind (Hacking, 1999, p. 32) “conjoined twins”, which may have a feedback effect on how they see themselves, they might usually not be guided by any strong social identity. In many daily affairs, the conjoined twins look like the pair of participants in the first case, two people acting together to obtain common goals. We can easily imagine them fighting and blaming each other for breakdowns in the control of their shared body. It seems then that the shared know-how behind the ability to control their body is distributed among the twins. Each of them knows how to move the part of the body under their control and monitor and predict the movements of the other part in order to keep a joint control of their shared body. On the other hand, the degree of coupling they achieve in some activities, like in playing softball, may be so high that they may be act and be seen as just a single agent in these occasions. In this context, they may embody a common social agency due to past training. Accordingly, when something goes wrong, it is the agency of “the” twins that is to blame. This should not come as surprising. Like the case of the professional team, the same group of individuals may act during a match as a single collective but in other situations only as a group of individuals, for instance when they jointly organize a party. It also happens with couples, although they are normally two distinct persons, sometimes they act as if they were just one—assuming that they both let each other be just one (De Jaegher, 2019). Thus, depending on the activity and the degree of the coupling involved, there are cases in which the shared know-how belongs to the system, which then has enough agency to be responsible for its performances, and there are other cases in which the shared know-how belongs to the participants.

Concluding Remarks

Shared know-how is a complex kind of ability. At the same time that shared know-how turns social acts possible, it seems to require responsiveness to others to work. This raises the question

(Stapleton and Froese, 2015, 232).

of whether shared know-how is an emergent ability or not. Following the authors of *Linguistic Bodies*, I tried to sustain that it is. Even responsiveness to others may be augmented or extended by perceptual learning. Another relevant question regarding the structure of shared know-how is whether it should be conceived as distributed individual know-how or as a whole ascribable only to systems or collectives. I have argued that there is not a single answer to this question. As know-how is an agent notion, it cannot be separated from issues regarding responsibility. Whether shared know-how belongs to the system or to the participants depends on the degree of the coupling among the participants that bring forth a system and on how that system relates to our practices of ascribing merit and demerit. As we discussed, in some cases the shared know-how belongs to the system, in others to the participants.

I have called attention to just one topic among many others developed in *Linguistic Bodies* and hope to have helped to pursue further some aspects of the notion of shared know-how. I was not able to do full justice to this wonderful book in this single paper, but this is because I'm just beginning a journey of exploration that will last for the years to come.

References

- ALKSNI, N.; REYNOLDS, J. 2019. Revaluing the behaviorist ghost in enactivism and embodied cognition. *Synthese*, <https://doi.org/10.1007/s11229-019-02432-1>.
- BARANDIARAN, X. E.; DI PAOLO, E. 2014. A genealogical map of the concept of habit. *Frontiers in Human Neuroscience*, **8**(522):1-7.
- BIRCH, J. 2018. Joint know-how. *Philosophical Studies*, **176**(12):3329–3352.
- CARVALHO, E. M. 2019. Socially Extending the Mind Through Social Affordances. In: CURADO, M.; GOUVEIA, S. S. (Eds.). *Automata's inner movie: Science and philosophy of mind*. Delaware: Vernon Press, p. 193–212.
- CATH, Y. 2019. Knowing How. *Analysis*, **79**(3):487–503.
- DE JAEGER, H. 2019. Loving and knowing: reflections for an engaged epistemology. *Phenomenology and the Cognitive Sciences*, <https://doi.org/10.1007/s11097-019-09634-5>.
- DE JAEGER, H.; DI PAOLO, E. 2007. Participatory sense-making. *Phenomenology and the Cognitive Sciences*, **6**(4): 485–507.
- DI PAOLO, E.; CUFFARI, E. C.; JAEGER, H. D. 2018. *Linguistic Bodies: the Continuity between Life and Language*. Cambridge, MA: The MIT Press, 414 p.
- DREYFUS, H. L. 2006. Overcoming the myth of the mental. *Topoi*, **25**(1-2):43–49.

HACKING, I. *The Social Construction of What?* Cambridge, MA, Harvard University Press, 261 p.

HEFT, H. 2007. The social constitution of perceiver-environment reciprocity. *Ecological Psychology*, **19**(2): 85–105.

HEYES, C.; BANG, D.; SHEA, N.; FRITH, C. D.; FLEMING, S. M. 2020. Knowing Ourselves Together: The Cultural Origins of Metacognition. *Trends in Cognitive Sciences*, **24**(5):349–362

MARTENS, J.; SCHLICHT, T. 2018. Individualism versus interactionism about social understanding. *Phenomenology and the Cognitive Sciences*, **17**(2):245–266.

MERLEAU-PONTY, M. 2012. *Phenomenology of Perception*. New York: Routledge, 606 p.

POLANYI, M. 2009. *The Tacit Dimension*. Chicago, The University of Chicago Press, 108 p.

RYLE, G. 1945. Knowing how and knowing that. *Proceedings of the Aristotelian Society*, **46**:1–16.

SEEMANN, A. 2019. *The Shared World: Perceptual Common Knowledge, Demonstrative Communication, and Social Space*. Cambridge:MA: The MIT Press.

STAPLETON, M.; FROESE, T. 2015. Is Collective Agency a Coherent Idea? Considerations from the Enactive Theory of Agency. In: C. Misselhorn (Ed.). *Collective agency and cooperation in natural and artificial systems*. Cham: Springer International Publishing, p. 219–236.

VOLZ, L. J.; GAZZANIGA, M. S. 2017. Interaction in isolation: 50 years of insights from split-brain research. *Brain*, **140**(7):2051–2060.

WEICHOLD, M.; THONHAUSER, G. 2020. Collective Affordances. *Ecological Psychology*, **32**(1):1–24.