DOSSIER

# Letting language be: reflections on enactive method

## Deixando a linguagem ser: reflexões sobre o método enativo

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**ABSTRACT**

Prompted by our commentators, we take this response as an opportunity to clarify the premises, attitudes, and methods of our enactive approach to human languaging. We highlight the need to recognize that any investigation, particularly one into language, is always a concretely situated and self-grounding activity; our attitude as researchers is one of knowing as engagement with our subject matter. Our task, formulating the missing categories that can bridge embodied cognitive science with language research, requires avoiding premature abstractions and clarifying the multiple circularities at play. Our chosen method is dialectical, which has prompted several interesting observations that we respond to, particularly with respect to what this method means for enactive epistemology and ontology. We also clarify the important question of how best to conceive of the variety of social skills we progressively identify with our method and are at play in human languaging. Are these skills socially constituted or just socially learned? The difference, again, leads to a clarification that acts, skills, actors, and interactions are to be conceived as co-emerging categories. We illustrate some of these points with a discussion of an example of aspects of the model at play in a study of gift giving in China.

**Keywords:** Enactive epistemology, Enactive ontology, Dialectics, languaging, Shared know-how.

**RESUMO**

Impulsionados por nossos comentadores, consideramos esta resposta uma oportunidade para esclarecer as premissas, atitudes e métodos de nossa abordagem enativa da linguagem humana [*human languaging*]. Ressaltamos a necessidade de reconhecer que qualquer investigação, particularmente sobre a linguagem, é sempre uma atividade concretamente situada e auto-fundamentada; nossa atitude como pesquisadores é do saber como engajamento com nosso tópico. Nossa tarefa, formular as categorias ausentes que podem unir a ciência cognitiva incorporada à pesquisa sobre linguagem, requer evitar abstrações prematuras e esclarecer as múltiplas circularidades em jogo. Nosso método escolhido é dialético, o que suscitou várias observações interessantes às quais respondemos, particularmente com respeito ao que esse método significa para a epistemologia e ontologia enativas. Também esclarecemos a importante questão de como melhor conceber as várias habilidades sociais que progressivamente identificamos com nosso método e que estão em jogo na linguagem humana [*human languaging*]. Essas habilidades são socialmente constituídas ou

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apenas aprendidas socialmente? A diferença, novamente, leva a um esclarecimento de que atos, habilidades, atores e interações devem ser concebidos como categorias co-emergentes. Ilustramos alguns desses pontos com uma discussão de um exemplo de aspectos do modelo em jogo em um estudo sobre a entrega de presentes na China.

**Palavras-chave:** Epistemologia enativa, Ontologia enativa, Dialética, Linguagem, Saber-como compartilhado.

We are very grateful to Eros Carvalho, Nara Figueiredo, and Sofia Stein for their thoughtful comments, queries, and criticisms of our book *Linguistic Bodies*. They indicate issues that need clarification, expansion, and sometimes further thinking. We welcome this opportunity to shed light on points that have remained undeveloped, or need to be underlined in their meaning and importance, in what is a complex project whose goals cannot be entirely achieved in a single book. Our investigation is and should remain an ongoing task.

This is a good chance, then, to offer an elucidation of the core commitments of our enactive approach and the particular methodology with which we broach the question of human languaging. Although the commentaries touch on various issues, underlying them there seems to be a concern about both our starting point and our method of investigation. So we will start there, and address as we proceed specific questions and criticisms.

Our first clarification concerns the attitude we take as researchers within the enactive approach and has to do with acknowledging the situatedness of our inquiry and of our community of knowers. Knowing—as researchers—is simultaneously a task of engagement with our subject matter and a task of self and other transformation. By this we mean that it is crucial to adopt epistemic attitudes that will not abstract our object of knowledge violently, making it fit within pre-given categories and methodologies we have at hand and with which *we* feel comfortable. Human knowing advances through the dialectics of letting-be (De Jaegher, 2019), in this case, of letting "language" be, as the diffuse and complex set of phenomena that *it* is. We contend that the task of providing a properly embodied perspective on what people do when they do languaging requires filling in an important gap in concepts and categories, a task for which our best guides are the phenomena themselves. We explicitly reject a method of positing abstract concepts as generalizations of regional empirical information, because we do not want to inherit the assumptions that are inevitably contained in that information, i.e., the conditions of validity that put limits to any empirical observation. Our theory aims at capturing the totality, not just a region, of language (a goal that, we insist, remains open-ended, because language is itself open-ended). The methodology of compartmentalization, analysis, and integration can yield good results in specific cases, but not in this one, we argue, because the study of any part of language, be it phonetics, pragmatics, grammar, language change, etc. requires framing assumptions about other parts of language in order to move forward. These are typically assumptions about the low dependence of the target domain on those other areas (e.g., phonetics abstracted from pragmatics, grammar abstracted from conversation, and so on). Generalizing from these local assumptions toward language as a whole, experience tells us, is risky. The situation is confounded when we consider the relation between language and "extra-linguistic" cognitive, emotional, social, and biological processes. As we defend in the book, there isn't much that pertains to human life that is untouched by language: "Language is like a mesh that fractally penetrates the lifeworld without ever covering it entirely, without fully determining it, and yet, given any phenomen[on] of interest, language is always to be found infinitesimally close to it" (Di Paolo et al., 2018, p. 136).

It is for these reasons that we adopt certain assumptions about the world, certain core theoretical notions that come from previous work in the enactive approach. To this we add a method that we deem necessary for our task, which is to let language speak to us and, in our engagement with it, fill in the missing categories that embodied cognitive science has yet to produce.

But what are these assumptions, what are these prior concepts, and what is our method? To provide a comprehensive answer to these questions would exceed the scope of this response, but we may specify a few aspects of our enactive ontology and epistemology that are relevant to the issues raised by our commentators.

A concern common to the three commentaries is the operation of a potentially invalid circularity in our methodology. For example, Carvalho (2021) wonders how responsiveness to others can be a kind of shared know-how 'all the way down.' He is willing to grant that shared know-how may beget more shared know-how, but is compelled by Martens and Schlicht (2018) to posit an initial sensitivity to others that is "basic" to individuals. We return to a detailed discussion of this issue below. Figueiredo (2021) worries that the relationship between ontology and epistemology in enactive theory is too close, closing out an independent world that ontology should capture without the collusive shadow of relational epistemology lurking in the background. Figueiredo herself suggests "Maybe, the best way to conceive this paradox is, in an admittedly circular manner … we could consider the world as constantly changing and our relations to the world as constantly changing as well," but decides "I will not explore this idea here." These are important questions to address because, indeed, enactive methodology departs significantly from standard assumptions and idealizations about how science and knowledge production work. As mentioned

above, enactive ontology and epistemology alike begin with the co-arising nature of knower and known, or subject and world. And one might worry, as Stein (2021) does, that there is a risk of losing touch with other parts of science in following this path. There is an essential "groundlessness" built into this approach to mind (see, e.g., the discussion of Varela, Thompson and Rosch, 1991 in Haskell, Linds and Ippolito, 2002) and, now, language.

Yet while it is rare-ish to engage Eastern philosophy in philosophy and sciences of mind, appreciating the inevitable situatedness of knowledge projects is not novel for the Western tradition, only marginalized. Human science critiques of psychology date back at least to Dilthey in the 1860s (1957), who "argued that if scientists' experience was human, then their method must entail understanding" (Walsh, Teo and Baydala, 2014, p. 557). Feminist critiques have made clear how science is not and cannot be value-free; embracing relationality, perspectivism (also expressed in Nietzsche), and defeasibility (another way of thinking interactional meaning-making) is the authentic path for science (see e.g. Harding, 1986; Keller, 1983). De Jaegher continues this work of engaged epistemology by also learning from indigenous epistemologies and neurodivergent conversation partners (2019; forthcoming).

By these lights, any scientific endeavor grounds itself; ideally, this is a self-conscious self-grounding, but not always so. Self-grounding sometimes takes the shape of a disavowed reification of categories, as if our working scientific concepts are just given and not the result of a history of epistemic work. But notice that, certainly on an enactive view, a self in isolation is a fiction. Researchers are in dialogue with traditions, with colleagues, with their own experiences. How then do we, as the three particular researchers we are, approach our work?

We aim to stay true to who we are together. This requires perpetual negotiations: while we share certain training and theoretical common ground, we have different specializations, and each needs to balance different professional and personal pressures. Additionally, each of us has a distinct style of working, co-working, and languaging. Space for these differences is maintained (not only geographically, though there is also that!) in a care-ful exercise that builds on years of its own making. We have co-evolved a shared way of thinking — an evolving knowing-how — that we can recognize and practice when we are not actively collaborating (for example, speaking singly about our shared projects, coming across a book or article and seeing it as something that would interest the other, noting observations that would fit our next collaboration). These distributed practices partly guide our returns to working together. When co-writing, we are in-process together. Our collaborations are conversation-driven, whether in video calls, Google doc comments, or gathered around Hanne's dining room table. Co-authoring has been a long-standing example in the participatory sense-making literature, and for good reason: writing with another, as a particular form of languaging, consists in letting each other in and

working-in-tension with interaction dynamics that emerge and dissipate. We can say in our case that, again building on a history that importantly includes breakdowns and recoveries, the writing is carried out now with great trust for the others' ability to express the view we are holding and building together, and each maintains openness to having one's own words revised or overwritten. Openness and letting-be is also practiced in regards to the free-ranging reading that informs our work beyond traditional disciplinary boundaries. We offer these remarks on our practices as a demonstration of how self-grounding can work. It occurs in researching together, in working out different meanings, ideas, and interests, and eventually, the production of an intervention—a paper, a book, a talk, a project— in the wider dialogue of a research community, where an analogous process is constantly taking place.

Beyond this general debate about the possibility of pure objectivity in science, it is common to fret that researchers working on language and cognition are caught in an unbreakable cipher, since we are doing the very thing we are trying to study. This is an impossible critique; it has the feel of the argument from consciousness, a counter-argument to the possibility of machine thinking that Turing considered in his 1950 paper "Computing machinery and intelligence". Of this argument Turing writes, "According to the most extreme form of this view the only way by which one could be sure that a machine thinks is to be the machine and to feel oneself thinking. One could then describe these feelings to the world, but of course no one would be justified in taking any notice" (Turing, 1950, p. 446). Skepticism should actually have less traction when the target is our own behavior; who better to know this than ourselves? To be less glib, however, there is no reason not to hold to the standards of engaged epistemology set out above (our attitude of letting be), regardless of the degree of reflexivity involved. Humans are reflexive and self-conscious beings; this is precisely why all knowledge pursuits must be perspectivized (and, in principle, something that our investigation also aims to explain). Clear-eyed circularity understood as non-detached knowing is not a danger but in fact the most honest research method we can practice.

We acknowledge that circularity can still be suspect in traditional scientific circles, even these days. But it is far from being a rarity, especially since the study of complex nonlinear dynamical systems started to gain ground in physics, biology, and psychology around the 1980s and 1990s. Mutual modulation between systems in coupling, interactions across scales, structural and developmental transitions triggered by small parametric changes, self-organization, synergies, regimes of criticality, and so on — these ideas give the lie to the assumption that the only valid scientific attitude is a reductionist one. The enactive approach, since its origins, has thrived in such ideas and has simultaneously avoided the traps of abstract reductionism and mysticism. It does so with models, experiments, computer simulations, mathematical techniques, etc., and *operational thinking*.

A constraint in our methodology that the commentators have not remarked on and, in view of Stein's worries, we may have not stressed sufficiently, is that any concept building we do must always be grounded operationally, using other concepts that are themselves grounded operationally. Thus, when we speak of autonomy, this is grounded in the systemic idea of operational closure (Di Paolo and Thompson, 2014), when we speak of adaptivity and sense-making, these are defined in non-teleological terms and take the concept of autonomy as a starting point (Di Paolo, 2005). When we speak about participatory sense-making, we combine in a definition of social interaction two different systemic requirements, the autonomy of the participants and the autonomy of the interactive pattern (De Jaegher and Di Paolo, 2007). Sensorimotor schemes are defined in terms of sensorimotor contingencies, which are themselves grounded in dynamical systems description (Di Paolo et al., 2017). And so on. Any technical idea that has been proposed, not just in this book but in previous work within the enactive approach, can be cashed out in operational terms. We thus avoid mystical constructions and confusions, as in the case of representationalism where we are obliged to disregard ubiquitous homuncular or mereological fallacies due to a lack of operationality. This is our constraint: admit circularity as a virtuous possibility in concept building, but ground technical concepts operationally. *Linguistic Bodies* is no exception.

What our book brings to the surface is a dialectical methodology that has always been lurking in enactive research, particularly in the work of Francisco Varela (1976, 1979). As we explain in the book, this is not to replace existing dynamical systems ideas, but to potentiate them by placing them within a method that has arguably generated many insights in the study of historically changing complex totalities. We can expand here what this move means for the enactive approach, but we don't think it is as neatly divided, as Figueiredo suggests, into ontological, epistemological, and methodological boxes. These aspects, for various reasons, tend to merge into one another, as she also acknowledges.

To repeat, we adopt an enactive (not a dialectical) ontology and epistemology, and in this work *also* an explicitly dialectical method. That these can work together does indeed say something about our enactive ontology and epistemology (and their complex relation), but it does not say straightforwardly that these are simply dialectical; or at least, this would be a rushed conclusion if we do not clarify further what this could mean in our case. Moreover, in the true spirit of open-ended inquiries, and following a central lesson from enaction that states that we are always transformed by our practices, adopting dialectics as a method, can and indeed does transform our approach.

What are these transformations? Does the enactive epistemology change? In a way, it does. We see more clearly that knowing as engagement is indeed a never-ending passage from the abstract to the concrete, and in that sense dialectical. We approach our subject as situated knowers with ideas,

prejudgments, expectations and these are transformed by the concrete and newly situated engagement if we let our object of knowledge be. As knowers, we must also accommodate these changes in relation to our past history, or sedimented knowledge in the face of this ongoing knowing. This accommodation is also clarified dialectically. And so we can indeed say that an enactive epistemology does incorporate a dialectical attitude, but perhaps does not reduce to what others in the past have understood as a strictly dialectical epistemology.

The difference may be revealed in some comments by Stein, who worries about whether other tools, such as analysis, grounding in the physical sciences, and so on, are not at risk of being discarded as a whole in our approach (tools that, however, are extensively used in the model itself, as each expansion demands analysis of tendencies and contradictions, and each transition demands empirical input). To be clear, our use of dialectics should not be seen as opposed to analysis or empirical work but as a way of *organizing* the use of analytical tools and empirical knowledge. If we had adopted a crude and dogmatic version of dialectics that specifies a set of rules and patterns of thinking without attention to historical and material constraints, Stein's worry might be warranted. The phrase, "a dialectical epistemology", without clarification, might invoke such an idea, which is why we insist the best way to think about our investigation is that it follows an *enactive* epistemology, simply because this highlights aspects of engagement and personal experience we do not tend to find in strictly, and particularly dogmatic, approaches in dialectics. It is for this reason that our dialectical approach is modelled on thinkers who stressed the lived and living character of dialectics in human praxis, thinkers like Evald Ilyenkov, Karel Kosík, Tran Duc Thao, Mikhail Bakhtin, and even Maurice Merleau-Ponty and Jean Piaget. From the perspective of an enactive epistemology, our use of dialectics is an enriching act of self-discovery and self-transformation.

And what about ontology? Figueiredo thinks this is where our contact with dialectics is perhaps the weakest. We insist that we would not state, as she suggests, that we are indeed adopting a dialectical ontology. We adopt an enactive one. But like epistemology, might not our ontological attitudes be transformed by this deployment of dialectics? As a matter of fact, they are, but again, not in the sense that we may claim that our ontology is simply dialectical.

Dialectics feeds back into ontology because the operational grounding of technical concepts becomes clarified and sometimes even re-signified by becoming more concrete. This is the case of how we move from autopoiesis (a set-theoretical notion) to the enactive conception of life as autonomous agency (a concept embedded in more concrete temporality and material constraints). This dialectical move is concretized by analysing the opposed tendencies of the two conditions of autopoiesis: self-production and self-distinction (Di Paolo et al., 2018, p. 39–41). Our intervention reveals something that was occluded (but not disallowed) in the classical concept of autopoiesis, the fact that life is at its core

always underwritten by a primordial tension. This tension is material and temporal: How to distinguish oneself from the environment (and thus enact a minimal kind of freedom) while at the same time remaining dependent on it? The application of dialectical thinking to one of the core ideas in the enactive approach gives explicit voice to something about which autopoiesis theory had remained silent: life entails both ongoing tensions and contradictions as well as a measure of freedom, or as Hans Jonas summarized it: a *needful freedom*. Enactive ontology is thus elaborated, clarified, expanded.

Figueiredo seems to worry that this kind of transformation blurs philosophical distinctions. She finds no major issues with dialectics as a method (in the model) or as an epistemology (moving from the abstract to the concrete), but questions whether it is possible to defend a dialectical ontology (something we do not exactly claim to be doing), since ontological claims might turn out to be the result of epistemological and methodological moves. It is true that there are subterranean connections between ontology and epistemology in our approach. As she quotes, ontology cannot be reduced to epistemology but cannot be divorced from it either. As we stated earlier, the enactive approach is self-reflective, meaning that ontological claims are themselves made by situated sense-makers, whose activities are embodied, dialogical, and historical. Figueiredo is correct in suggesting that ontology is therefore epistemologically conditioned. Yet when she proposes that our situatedness seals us off from *any* ontological claim simply because such claims would always be the result of situated cognizing, she risks turning the project into a new kind of idealism. But, based on the premises above, we can indeed make ontological claims: for instance, the claim that all processes, including our bodies, are relations of occurrences, potentialities, energies, flows, as well as barriers and constraints that constitute tensions and dialectical situations that may or may not lead to individuation and new dialectical configurations. Idealism is precisely what we are striving to avoid with claims of this kind, especially the idealism of naive materialism and other epistemologically-proofed ontologies of a world-out-there unchanged by our activity. We see again, in Figueiredo and Stein, a bit of that anxiety that self-grounding endeavours can provoke.

At this point we can return to the questions Carvalho raises regarding our account of shared know-how, which is admittedly undertheorized — perhaps appropriately so. It should follow from the foregoing that we try to keep alive and kicking as much nuance as we can when thinking about what goes on in languaging encounters. We cannot be satisfied with a neat or final distribution of roles and responsibilities in participatory sense-making; bodily interactions are messier than that. Of course at the same time we should not leave readers guessing, and we can upon this invited reflection clarify that "shared" in "shared know-how" means at least two things:

1) overlapping repertoires, and 2) equal ownership or use or co-enactments of know-hows. These two meanings do not exhaust the way the idea of know-hows plays a role in our account of linguistic bodies, because there can still be partial acts that are co-enacted but distinct ("unshared"), which form a successful social act. Furthermore, there is know-how in dividing our labour to the benefit of everyone, and this idea of interlocking or complementary skills and repertoires is also operational in our model, but does not entail overlapping skills nor enacting together a same set of schemes.

Entertaining reductionist possibilities, Carvalho seems to see *only* two alternatives: shared know-how belongs to single agents, or it belongs to a joint social system (and this makes him worry about whether such a system can be an agent, given that the notion of know-how is agent-related). This move misses the fundamental insight of participatory sense-making, thereby raising a *specter* of ontological concerns about agency. When Carvalho says "the participatory sense-making activity has allegedly some autonomy in relation to the individual sense-making of the participants," and it seems to him "reasonable to assume that the system the participants bring forth together enacts a world of significance for itself", he seems to presuppose a mapping of participatory sense-making onto the interaction process, and of sense-making onto the individual agents who participate in the interaction. But participatory sense-making does not simply map onto the interaction process, nor does sense-making map onto the individual. This is the whole point of giving an affirmative answer to the question: Can social interaction constitute social cognition? (De Jaegher et al., 2010). What participatory sense-making is, is the way individuals make sense, together, while interacting *and* while self-organizing, i.e., in the fields of tension between and spanning those processes. Participatory sense-making— and sense-making both—are activities (and experiences) that have these processes (individual and interactive self-organization) as their basis, but transcend them too.

In thinking about shared know-how as participatory sense-making we can follow the main argument in *Sensorimotor Life*: "activity and agency are co-constituted (Di Paolo et al., 2017). Acts can exist that no agent intends and yet be performed and possibly appropriated by agents. In turn, such acts help constitute agency and in some cases, this agency is not the agency of the participants, nor the agency of a supra-system (the dyad, the family), but something ambiguous and in-between, that might develop in more than one direction. But this development is not necessitated to grant these acts their status as such.[4] It may be that individual participants become social agents in concrete configurations by contributing (together with others) to the enactment of social acts. In this they use know-how they acquire from participatory experience, and what is "shared" is the normative co-reference between the various individual know-hows (I do this bit, you do that bit, in co-

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[4] This may be another case of an uncomfortable circularity. But, as we have done on other occasions, we notice that it is not a new one. Similar views of acts can be found in philosophers such as Suzanne Langer (1967) and Christine Korsgaard (2009).

ordination, and we negotiate potential normative dissonances in our encounter, as we can see in the example of gift giving below). The knowing-how is distributed across the individual participants, and social acts can be enacted, and yet this does not necessitate positing a full-blown supra-agency. For enaction, agency does not logically precede acting, but co-emerges with it (in participatory sense-making as in the case of sensorimotor agency). So there is no logical problem about speaking of actions enacted socially, across individual bodies, that do not have a single, unified, enduring agency behind them.

It may be acceptable in some cases to change the term 'shared know-how' to 'joint know-how', and this may help resolve some worries. However, there is something that we want to emphasize by the term 'shared' and that is that joint knowing-how becomes the know-how of a group of participants in the double sense that it is sedimented as a habitual practice, and that in many cases, roles can be exchangeable. This serves to consider at a later stage how these practices, powers, and sensitivities can spread or enter into dissonance with the practices of other groups of interactors. Joint know-how, as a concept, doesn't by itself facilitate this conceptual development (one may specialize in only just one set of partial acts and never others; something that indeed can happen, but without some exchangeability and sedimentation, one would not be able to proceed to other stages in the model).

Consider, as an example of the fluidity of knowing each other and knowing what to do in interactions, gesture researcher Simon Harrison's microanalysis of two friends negotiating a gift exchange (Harrison, forthcoming). The friends are two young Chinese women; one is visiting the other in her home to give her money as a wedding engagement gift. Following local custom, such a gift is to be refused, at least initially.[5] We could say that both parties share in the knowledge both *that* it is appropriate to offer a monetary gift in celebration of a coming wedding and *that* it is appropriate for the would-be receiver to refuse (but ultimately accept) the gift (a norm also demonstrated in the highly embodied "see-saw battles" Harrison discusses that take place over gifts given for the Lunar New Year in China). Yet such sedimented cultural intelligence does not necessarily imply an embodied knowledge or habitual skill regarding *how* this manifest tension will be resolved by *these* women in *this* episode. Yes, each knows how to be a guest, receive guests in the home, have a conversation, give and receive a gift, even have an argument, surely as deep habitual know-how. Resolving the tension at hand could draw on these incorporations of previous experience, but how they handle it here and now cannot be predicted nor analyzed into discrete skills that could then be assigned to the participants or added together in a summative way. Such know*ing*-how is a path laid down in walking, or in this case, wrestling, as the friends struggle bodily to reach a resolution.

Harrison's micro-analysis of this multimodal meaning-making event deploys our dialectical model's logic to show how the participants generate and manage interactional tensions together, in a cyclical and spontaneous fashion, through bodily sense-making including "postures, facial expressions, gestures, and direct body-to-body manipulations" (Harrison, forthcoming). Stages of the dialectical model allow Harrison to structure a rapid, dynamic event brimming with affect and movement as the two friends play out fairly formalized roles demanded by the gift-giving ritual and at the same time realize locally and personally the significance of this exchange in their relationship and in the encounter. Harrison details how the gift-giver attempts "strongly normative co-regulated acts" which are rejected by the would-be receiver's sustained and non-cooperative "whole-bodied postures" and by her use of the vertical palm gesture, frequently associated with negation, as Harrison has shown elsewhere (Harrison, 2018). The would-be receiver meets the gift-refusal requirement with "a manifest lack of sensorimotor openness to the environment and overall unwillingness to 'let be'". Rather than go with the flow that her friend has unmistakably initiated, the receiver "withholds mutual gaze, directs talk to the cameraman [rather than the friend/rejecting or keeping at bay the interaction the gift-giving friend initiates], and uses her hands to gesture (rather than accept the gift)" (Harrison, forthcoming).

In one segment of multi-modal transcript analysis in which there is much overlapping talk, Harrison notes that the giver's vertical palm gesture transitions into a swat and then a full push at the protesting friend's gesturing hands. This invites Harrison to contrast a cognitive linguistic analysis of the conceptual negation embodied in the vertical palm gesture, through which the gesturer performs "as if" an action was about to be done, with an enactive linguistic bodies framework of becoming. He writes, "The speaker's subsequent pushing, slapping, and gripping her addressee would support this more environmentally embedded and intercorporeal view, unless we want to characterize the Vertical Palm as fundamentally different to the sequence of regulatory behaviors within which it is embedded" (Harrison, forthcoming). This dynamic becoming — hands that could receive instead express, and in expressing-rather-than-receiving, they reject; hands lifted in expressive protest physically stop a coming action — pictures precisely the shifting, transitory individuation of meaningful co-authored movement events, which arise out of and dissipate back into co-generated tension in participatory sense-making.

Because of this dialectic between acts and agents, Carvalho is not quite correct when he insists that shared know-how makes coregulation possible. Coregulation may also happen spontaneously, fortuitously, etc. and in such cases, we can even expect that coregulation contributes to the

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[5] In his analysis of this episode Harrison draws on Yang's work in *Gifts, favours*, and banquets: *The art of social relationships in China* (1994). It is interesting to note that wedding gifts, New Year's gifts, courtesy visit gifts, and funeral gifts are guided by "*renqing* principles" (rather than *guanxi* principles of professional network building), with renqing translated as "human feelings" (Yang, 1994).

building of shared know-hows. It is a sedimentation/spontaneity dialectic, in this case clearly describable in terms, for instance, of equilibration.

Concerning responsiveness to others being shaped by interactions and this being a circular argument, the problem lies in conceiving complex capabilities such as responsiveness as atomic, either-or, skills. There is evidence of newborn and even in utero social responsiveness, but this does not entirely imply a nativist claim that we are born with responsiveness unshaped by social interaction. Newborns are more responsive to the rhythms of their mother's language than to other languages, so even in this early form of responsiveness there is evidence of social shaping. One should not fear circularities provided they are spread over time and the concepts we are tracking are complex, varying in intensity and quality, and always in development. It is in this sense that it is reasonable to assume a non-reductive position in explaining responsiveness to others, social sensitivity, and social know-how.[6] This stance is both explanatorily more accurate and receptive to empirical work and new empirical questions, and it doesn't fall into the contradictions of reductionism, which by design must find some ur-capabilities or basic powers just given and unexplained, otherwise it has no ground upon which to reduce complex ideas. Reductionism is ultimately (if forgetfully) mysterian.

Having said this, is it the case that the enactive account does not believe in anything that isn't shaped by interactions? No, it doesn't have to mean this. But the question is more a question of principle as well as a question of method. To what extent does any social capability originate in non-social skills? Empirically, it is clear that many such skills do contribute to social know-how and are subsequently shaped accordingly (say visual perception). But, insofar as this shaping becomes constitutive and not merely an accommodation to social practice (as it happens, at least in some cases), it is conceptually inaccurate to insist that the ability remains non-social. If visual perception is shaped socially as evidence shows (see Di Paolo, 2016 for a discussion of this evidence), just calling it visual perception tout court is in fact a misnomer (if not one we worry about in everyday contexts). To visually appreciate a painting, read a text, figure out who's winning at the horse races, and so on, are all different skills (in this case all socially shaped and one can argue in each case whether or not they are socially constituted as well). Even individual sensorimotor skills such as reaching for an object develop in infancy via very different idiosyncratic paths by the confluence and coordination of other more basic skills (Thelen et al., 1996). This composition is often socially achieved, but that's not the point. The point is that something new emerges in development and it makes little sense to say, e.g., that reaching for an object is not more than hand grasping that happens to be modulated by directionally accurate arm extension. Rather, it is a novel skill and takes on a developmental path as such a novel skill. So, we claim, with social responsiveness (even if it is constituted *also* by individual capabilities).

Ultimately, it is a moot point whether at some given stage there exists something we may call a minimal responsiveness to others, if as soon as the first response occurs this skill begins a course of social shaping, differentiation, and development, something that is already occurring in utero (Martínez Quintero and De Jaegher, 2020). But more strongly, the idea is dubious from an enactive perspective since the very notion of an individual agent, (for instance, a sensorimotor agent) relies on conditions that must obtain in a network of sensorimotor repertoires and these conditions themselves develop socially (as illustrated in Di Paolo et al., 2017). Attributing anything, a skill, an act, to an individual cannot be, in the human case, in opposition to its social origins and constitution. This is, a fortiori, true in the case of linguistic bodies.

These considerations do not obliterate other relevant questions, such as whether responsibility can be attributed to individuals for certain occurrences in social interaction. We think that there are clear cases where this can be done, and others where it is less clear. The tools and methods for resolving these issues can be complex and open to disputation. But we do not deny the question itself as a genuine question. Addressing this would require a careful discussion of what it means to attribute responsibility (itself a socio-linguistic act embedded in the norms of a concrete community); i.e., we should not simply assume that the question is exempt from theoretical criticism and elaboration before rushing to answer it.

As we said, this project is not exhausted by a single book. We are grateful for the gift of this space in which to clarify the enactive starting point and method, which are themselves always becoming and being developed through *linguistic bodies* (the book readers, ourselves, and other researchers). The key to this method is holding tensions, rather than trying to evade them. Put another way, our deepest methodological commitment takes the form of an invitation to participate. This invitation reflexively obliges us to work with others, listen to others, and remain open to being led and changed by others in the service of ever more inclusive and expansive participation. After all, how can any of us truly participate if we are not prepared and able to—at least minimally—hold tension?

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[6] For a phenomenological disambiguation of the concepts of social sensitivity and social skills, see Magrì, (2020).

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