Anna Martin

SHARED AGENCY IN COMPLEX SETTINGS

ABSTRACT

The paper begins by identifying two opposing approaches to (shared) agency—the standard model and the dynamical model. Despite differences between them, both models essentially converge upon the belief that shared agency entails direct mutual influence between agents, in the form of either mutual control or mutual responsiveness, respectively. This assumption becomes problematic when applied to interdisciplinary practices, like interdisciplinary research, which involve role specialization and thus do not lend themselves to an explanation in terms of direct mutual influence. In response to this difficulty, the paper advances a third approach—referred to here as the regulatory model (e.g., Schore, 2000)—which explains shared agency in terms of loose coupling (Gruber, Bödeker, 2005) understood as a pattern of cyclical organization of action in the course of which different positions (perspectives, agendas) are first differentiated during the exploratory phase and then integrated, giving rise to a dialogical from of self-organization.

Keywords: Agency, shared agency, self-organization, differentiation, unification, interdisciplinary research, integration of perspectives.

1. INTRODUCTION

Shared agency is an interesting phenomenon mainly because it appears, at least in theory, to enable people to realize larger purposes, normally outside the scope of their capability, without sacrificing individual autonomy, creativity, or sense of agency. The fact that shared agency appears to be uniquely positioned to allow people to achieve larger goals through integration of individual, unique contributions, makes the phenomenon of immediate interest to a theorist of interdisciplinary practices.

What shared agency is usually taken to mean is that despite being a form of distributed activity, joint action is nonetheless expected to be "owned" (cf. Bratman, 2014; 1999a) or controlled by each agent involved in it. Or, we

could say, shared agency requires that action is organized in such a way as to enable a balancing act between the sense of togetherness and the sense of individuality.

There are, essentially, two diametrically opposed approaches to the problematic of shared agency, each of which tends to emphasize one group of factors at the expense of the other.

The standard model of shared agency, as we may call it, draws from causal theory of action (e.g., Davidson, 1980; Mele, 1992) and folk psychology. It presupposes an input–output model of the relationship between perception and action—an input, constituted by a representation of a desired state of affairs, accompanied by a set of instrumental beliefs, produces a series of acts as an output.[1] As applied to shared agency, the standard model can be encapsulated in a slogan "shared activity is plan-coordinated activity" (Salomone-Sehr, 2024). More specifically, following Bratman we could say that a mental state in the form of *prospective* intention generates *planning structures* (2014; cf. 2000) which in certain contexts tend to interlock into webs, giving rise to shared agency. Importantly, for Bratman *a web of intention is the content of a propositional attitude of an individual agent (participant).* Which is to say that agents exercise shared agency by acting upon a complex representation of interlocking intentions and contributions as if the constellation constituted a single plan of action (1999a; see Pacherie, 2012 for an analysis; cf. Roth, 2003).[2]

The problem with this approach is that it entails that the instances of joint action involving role specialization can only be explained by means of "participatory", rather than strictly *shared*, agency (Kutz, 2000, cf. Pacherie, 2012; Salomone-Sehr, 2023). Since specialization entails limited transparency and controllability, it stands to reason to assume that the only thing that representatives of different professions or disciplines can share is a commitment to a larger goal. That is, whenever a considerable role specialization is involved, individuals cannot be endowed with the power to coordinate their activities with others and instead are expected to focus on their specific tasks as assigned to them by an authority figure.

Since participatory agency does not meet, nor purports to meet, the own-action condition, the concept undercuts the very purpose joint action appears so well positioned to serve. In the simplest terms, top-down control may work very well when the goal is to reproduce or reenact a previously established complex schema—no wonder the example of participatory agen-

_____

[1] More precisely, a combination of desire and belief produces a series of *proximal, situationally-defined intentions* (Pacherie, 2012)

[2] Of note, the emphasis on the conduct controlling role of mental representation is meant, among other things, to avoid the problems generated by Searle's solution to the problem of shared agency via a distinction between I-intentionality and we-intentionality (Searle 1990). Searle's concept of we-intentionality is considered by Bratman to violate the own-action condition (2014, pp. 13–15; cf. 1999 *passim*).

cy most frequently cited is the relationship between the conductor and the orchestra (Kutz, 2000, Pacherie, 2012). Yet, as applied to creative endeavors—i.e., activities expected to bring about new results/qualities, such as interdisciplinary research—this type of control may be counterproductive.

The opposite approach—a dynamical one, as we shall henceforth refer to it— takes not individuals, nor circumscribed mental states, but a dynamical ("enactive") system as a whole, as the unit of organization of action. The input–output schema is replaced by feedback loops (Dewey, 1896) whereby intentionality ceases to be a feature of mental representations held by individuals and instead is conceptualized as a function of the current state of a "coupled" system. Importantly, in taking agents' entanglement with their environs as their default state of being, this model blurs the distinction between individual and shared agency.

Both more and less radical proposals have been developed within the dynamical approach.[3] Yet the crucial challenge for all of them is to specify how individual identity is to be understood in this framework. Of note, the importance of individuality in the present context stems mainly from its purported role in the creative process—for something new to emerge, individual contributions must not be "smooshed" together but rather must be allowed to develop just enough to be able enter a relationship of interdependence and complementarity (Massimi, 2018; Fagan, 2020).

Overall, we could say that although the standard model captures our basic, commonsensical intuitions concerning agency and ownership, the strict identification between agency and planning causes all specialization-involving cases of joint endeavors to fall out of scope of explanation in terms of mutually goal-corrected activity. This is due to the fact (1) that specialization makes intentions of another impenetrable, and (2) that demanding tasks require singularity of focus.

The dynamical approach, in turn, seems more accurate than the standard model considering the complexity of human interactions and developmental dynamics inherent in them. Since, however, the model tends to reduce shared agency to mutual responsiveness, it makes it difficult to properly articulate a dynamical equivalent of own-action condition without which the very concept of agency becomes obscure.

I discern a basic methodological flaw in both models, to do with the presumption of uniformity of the mechanism involved in action coordination or control. Both approaches, that is, take central moments of action to be representative of the whole process, which leads them to neglect proper consid-

---

3 Some authors (Chemero, 2009; Hutto, Myin, 2013; Noë, 2004; cf. Dreyfus, 2014), seem to downgrade individual agency to a greater extent than others (de Jaegher, di Paolo, 2007; 2017; cf. de Bruin, Kästner, 2012; de Bruin, de Haan, 2013). As suggested by Menary (2006), the difference can be measured by how far the respective dynamical approaches fall from the notion of self-organization as initiated by Varela et al., 1991 (especially pp. 202–205).

eration of their antecedents and subsequents. An examination of a full in-
tentional arc in dynamical terms, however, reveals an interesting interweav-
ing of coupling and decoupling, as well as of more active and more passive
forms of (mutual) engagement (cf. de Bruin, Kästner, 2012).

In a nutshell, this paper aims to lay conceptual foundations for the un-
derstanding of shared agency under conditions of complexity and limited
transparency. Disambiguation is in order at this point. These days complexi-
ty management is typically understood to be a form of organization requir-
ing ever more complicated *mechanisms* (procedures, algorithms, including
AI).[4] That is, it is taken for granted that complexity management entails
participatory agency in the sense defined. My intention, however, is to chart
the middle ground spreading between (1) the simplest coordinated activi-
ties, such as singing or painting (Bratman, 2009, p. 43), which most ac-
counts of shared agency are concerned with, and (2) the bureaucratically or
algorithmically managed activities to which the category of participatory
agency applies, by (3) by identifying a *psychological* mechanism that allows
agents to deal with uncertainty and complexity by means of mutual coordi-
nation of action. In other words, the paper deals with what we may call a
middle level of complexity, as contrasted to both "subpersonal" (biological
organization beyond the level of individual awareness) and "superpersonal"
processes (social systems operating beyond the level of individual awareness
and control).[5] The relationship between all three modes of organization is a
subject for a different discussion.

More specifically, by pushing the dynamical approach back to its roots in
the theory of self-organization, I will try to uncover a pattern of distribution
of various activities within a single, temporally extended—sometimes con-
siderably so—action cycle. More precisely, I will demonstrate what in dy-
namical terms appears to be the most optimal manner of energy distribution
underlying any complex expression of agency. Crucially, the model I am
about to present—to which I will henceforth refer to as *the regulatory model*
or *approach* to distinguish it from the dynamical approach as discussed just
a moment ago—entails a stage-dependent diversification of control mecha-
nisms for action and as a result reconceptualizes the own-action condition
as applied to all manner of complex activities, including those involving a
high-degree specialization of contributions, like interdisciplinary research.
Thus, the model (1) explains both creative and reproductive or distributive
facets of complex activities by identifying them as two essential phases of
pursuit, and (2) elucidates the relationship between them.

_____

[4] Of evolutionary or human (artificial) origin.
[5] See (Salomone-Sehr, 2023).

2. AGENCY IS INTRISICALLY COMPLEX

It is popular nowadays to emphasize that humans are finite and situated beings, with clashing needs and desires and limited and complementary capabilities (Massimi 2017). Such a condition pushes us into conflict with each other but is also what motivates joint endeavors.

But how exactly, or under what conditions, does the tendency for collaboration trump the our intrinsic competitiveness? This problem is admittedly beyond the scope of the present contribution, we may nonetheless extract from it a more tangible question: What kind of function, if any, does conflict play in motivating collaborative effort?

In response to such a challenge, I propose that the most convenient starting point for an examination of agency is the observation that not only do we often clash with other people, but our own needs and interests also tend to differentiate and conflict, which provokes efforts at self-organization at a higher level (Schore, 1997; Tronick, Gold, 2020). In line with this, it is becoming more frequent to emphasize that an individual agent, rather than being a uniform locus of control (a "monological subject"), constitutes a compositionally, dynamically, and developmentally complex entity (e.g., Hermans, 2016; Cooper, 2016; Merleau Ponty, 2012; Scharff, 1992/2020)**.** That is, a single agent ought to be understood as constituted by many independent loci of agency interacting in complex, non-linear ways, each stage being a product of decisions previously taken in response to all manners of contingencies. The simplest way to put it is that each person is a totality of different, relatively autonomous, "specialized" *I*-positions interacting with other *I*-positions.

This view of agency, like the dynamical model, unifies individual and shared agency in treating both as instances of what we may call complex agency. In contrast to the "bare" dynamical model as presented in the Introduction, however, the regulatory approach entails that allowing for all kinds of differences in emphasis, the same dynamic obtains both *within* and *between* people (Schore, 2001, p. 13; Schore, 2021). That is, in the light of the multipolar model of agency, people form, and function within, intersubjective webs (cf. Bratman 1999b, p. 142) in virtue of each of us *being* a unique web of agendas and perspectives susceptible to periodical reorganization.

This implies that action—be it individual or joint—is not simply a way of manifesting an idea. We may gain a better and more nuanced understanding of shared agency if we view action as a process of solving a series of internal and external coordination problems, whereby different positions are being organized around certain purposes, values, and concerns, which only become fully explicit in the very process of organization. In this way, individual agency naturally extends itself, so to say, in the direction of shared agency. This constant push for complexification, however, becomes conspicuous

only if we adopt a truly regulatory viewpoint on intentional activity and attempt to identify specific challenges one is facing at different stages of pursuit.

3. CYCLICAL ORGANIZATION OF ACTION—BASIC TENETS

As to the pattern of self-organization, I put forth that action (intentional activity) is best conceptualized as a cyclical process. Action, as we shall see in more detail below, can be construed as a recursive process which—in optimal conditions—culminates at the point where different perspectives as revealed during the first, exploratory phase are brought together into a dialogue, and closes at the moment when each agent involved in a given activity is able to, based on a newly acquired relational awareness, self-reflect, self-correct and set the agenda for the next cycle. As I shall argue, this kind of recursivity is the way in which the own-action condition can be fulfilled in both individual and joint actions.

More specifically, I propose to look at action as a developmental—i.e., complexification-oriented—process, composed of two distinct phases. Crucially, the phases are distinguished not based on the content of the accompanying mental states or propositional attitudes but rather on the type of a higher-order regulatory attitude involved. So much by the content of accompanying mental states or representations (cf. Bratman, 2014) as by higher-order, a regulatory attitude is understood as a context-specific combination of the following components: cognitive orientation (mode of attention), affective state, and a fitting behavioral strategy. Simply put, different phases and stages of the cycle correspond to different challenges and attitude on the part of an agent.

In line with contemporary discussions (McGilchrist, 2010; De Bruin, Kästner, 2012), we may refer to the first phase of the cycle as predominantly "presentational" (online/coupled, direct, or toward-the-world; exploratory and creative) and the other as predominantly "representational" (offline/decoupled, indirect, or away-from-the-world; reproductive and reconstructive). This helps us appreciate both sides of agency—that associated with articulation and reproduction of certain schemas or paradigms, and that associated with creative processes that transform the existing patterns of thought and action.

In addition to the two phases representing the states of coupling and decoupling, respectively, we will distinguish two stages within each to emphasize that certain moments in the action cycle are more stereotypically agentive while others are relatively more receptive or reflective. These stages would be: (1) online passive (cautions approach), (2) online active (active

exploration), (3) offline active (application and refinement), and (4) offline passive (reflection and deliberation).

The crux of this investigation is capturing the way in which the first phase of the cycle, once completed, inevitably presents us with the task of integration of the by-now differentiated perspectives. This greatly facilitates an understanding of how such an integration is subsequently achieved.

With this in mind, let us now go about examining each of these stages, paying close attention to the way each stage plants the seed for the next one and transforms itself into it, provided an appropriate attitude is adopted and maintained.

4. STAGE 1

The standard model is built around an intuitively appealing but misleading idea to the effect that in order to initiate intentional activity one must first specify its goal or intention (i.e., object of interest or concern). As has been pointed out in the context of shared agency, however, it is far from uncommon for agents to begin with a rather vague idea of what the shared intention entails, parenthood being the most obvious case in point (Bowden, 2017).

And indeed, there is a more general case to be made to the effect that the "causal" power of *prospective* intentions is limited to motivating entry (e.g., a resolve to enter a battlefield, go to college, start a new job or a research project). Even if one has initiated activity with a clear intention in mind, which does not have to be the case,[6] by the time one makes a move, the intention is a thing of yesterday; as of now, one is facing specific circumstances which cannot be fully specified beforehand. Which is to say that it is a universal feature of intentional activities to begin under conditions of novelty and associated ambiguity, where explicit intentions and plans, even when present, are quite impotent. As a rule, the more complex the endeavor, the vaguer the objectives as seen from the standpoint of stage 1.

We will hence designate as stage 1 of an action cycle the type of situation where (1) the amount of novelty and uncertainty exceeds the power of intentions, habits, and plans—any schemas in general—to directly control conduct, but nonetheless (2) the threat–opportunity ratio as perceived by an agent favors approach instead of withdrawal (cf. Gray, McNaughton, 2000).

It is important to stress that this characteristic of the initial moments of intentional activity is analytical. That is, if when confronted with novelty, one nonetheless defers to certain habitual responses, we are entitled to assert that one has not properly entered the situation, and the unique oppor-

---

[6] Actions can be started by impulse or as a result of being confronted with a certain situation.

tunity signaled by it may be lost, even if the agent appears to have managed to persist. Take a conception of an idea as an example—one is better off trying to toy with creative insights for a bit before going about formulating them in precise language, as if trying to make room in the extant semantical field for their development.

The overall vector of stage 1 is hence directed toward definition of a situation *from an agent's point of view*. More specifically, the challenge this stage presents is to identify threats and opportunities relative to a preexisting, largely tacit, nexus of needs, and interests, and capabilities, whatever these may be.

Accordingly, the recommended strategy in this kind of circumstance is a cautious approach (Gray, McNaughton, 2000, pp. 83, 256–257). That is, activity is supposed to take on exploratory rather than executive character—one is challenged to develop a largely pre-reflective sense of the way a given situation *affects* one along the lines of attraction (signified by excitement) versus repulsion (signified by anxiety/uneasiness). The stimuli that appear to elicit the strongest responses are being set up for further examination. Put another way, assessed at this stage is both the hedonic value of the incoming stimuli (good/bad) and their relative significance vis-à-vis a certain crudely outlined interest or concern.

5. STAGE 2

Stage 1 ends once, and provided that, a signal has been extracted from noise and a provisional foothold has been established. A PhD candidate, who has joined the program motivated by a dim intention to conduct research in a certain field of study, finds a supervisor, or a group of colleagues, who help him formulate a specific research question; after reviewing the available empirical material, a researcher is finally in a position to start formulating hypotheses, etc.

According to Ruth Millikan (1995), at the fundamental level intentions are not prospective, i.e., oriented toward some more or less distal goal that requires planning, but rather, are a blend of descriptive and directional (motivational) factors. And indeed, Millikan's concept of *pushmi–pullyu* representations aptly captures the character of what we have designated as stage 2, where facts and goals—along with tacit judgments as to the agent's capability to pursue them, we may add—are inseparable. This conceptualization is consistent with Gray and McNaughton's definition of goal as a mix of a stimulus and a response pattern (2000, p. 23). Simply put, at stage 2, intentions refer to a specific "here and now."

Of course, for the concept of *pushmi–pullyu* representations to be of use to us, the "here and now" must be understood broadly. The duration of stage

2 may span many hours, months, years even, as is the case in research projects for instance. The idea is, therefore, that activities pertaining to the given pursuit will be *predominantly* performed in a "seeking" mode (Panksepp, 1998, p. 51), each activity being broken down into appropriately smaller cycles of reward system activation and deactivation (rest).

Especially in the context of knowledge acquisition, this stage may be characterized as the process of development of a certain specialized knowhow—personal knowledge in Polanyi's sense (1962)—through a direct engagement with a subject matter representing an object of immediate concern or interest to an individual. [7]

In strictly dynamical terms, the situation presents itself thus. For any pattern to emerge from a primordial ambiguity, we need a strong activation along a certain trajectory which entails inhibition of alternative pathways (Sheldrake, 2011, p. 178). For the emergent pattern to entrench (e.g., develop into habit), in turn, the delineated pathway must be further enhanced while the alternatives are further suppressed. In research context, for example, suppression of alternative trajectories corresponds to idealization in Cartwright's sense (1983). Obviously, this kind of chiseling will cause serious difficulties down the road unless properly restrained.

In other words, at stage 2 of action cycle we have acquired a provisional definition of the problem situation which is, however, very subjective aka perspectival, interest-driven, and context bound (cf. Chirimuuta, 2016), all of which may not be clearly realized by the agent (and usually is not). Stage 2 can be hence characterized as producing a necessary distortion (cf. Fagan, 2020) in our understanding of the problem at hand.

This causes the following challenges for an agent to meet.

In identical or closely similar initial conditions and under an umbrella of roughly the same problem (e.g., research question)—that's stage 1— idiosyncratic decisions made by every two or more individual researchers will at stage 2 produce a deviation from what otherwise could have been a single trajectory. On the negative side, this corresponds to a situation where different researchers (or professionals more generally) use the same term in a more or less different sense and talk past one another as a result. On the positive side, this kind of specialization makes it possible to cover different aspects of a phenomenon. Be that as it may, a tension is there.

From another angle, the factors one epistemic agent has excluded from a definition of situation at the onset of stage 2 are likely to be explored by another agent, which means a confrontation of perspectives is inevitable. This challenges agents to recognize that two different phenomena may ultimately be two facets of the same thing.

---

[7] Note that there is no other way to navigate this stage than through personal engagement in that the latter is what activates the resources (intelligence, skills, motivations, etc.) necessary for niche construction.

Of note, stage 2 is a moment when strategic alliances are normally formed in that group formation is a convenient way for agents to enhance activation and gain momentum during goal pursuit (e.g., reading groups, musical bands, etc.). Even absent any express will to join forces with others, one will now inevitably organize the pursuit along the lines of a yet-primitive, implicit self–other system, rigidly demarcating "us" (loci of agency aligned with one's interests and agendas), from "them" (those factors, including human factors, that appear to oppose one's efforts or stand in the way of the cause as provisionally defined). That is, as a result of the inevitable polarization that takes place at this stage, similarities between prospective partners tend to be overemphasized while differences between the designated insiders versus outsiders are being exaggerated. Which is yet another source of difficulties down the road.

Overall, dynamically speaking, the purpose of stage 2 is to differentiate and ultimately contrast different trajectories of pursuit. This produces external as well as internal conflicts. Collaborations initiated at this stage are unable to achieve any level of sophistication due to the superficiality of mutual rapport and the rigidity with which alternative viewpoints are excluded, as well as to agents' blindness to the points of intersection between seemingly unrelated issues and activities. Agents' self-understanding as individuals is likewise unstable because at this point they simply cannot capture all the tacit assumptions fed into the construction of a standpoint.

To sum up the characterization of the first phase: Early into stage 2, one tends to treat oneself—along with the group one inevitably identifies oneself with—as an epicenter of activity, which is understandable considering the function of *pushmi-pullyu* representations, designed to allow one to deal with immediate concerns. As these concerns are being gradually addressed, however, there comes a point when one is expected to acquire basic self-awareness as occupant of a certain *I*-position, which entails an awareness of there being some other perspectives to reckon with. As we shall see in more detail in just a moment, an adaptive response to the tensions and conflicts produced toward the end of stage 2 leads through the integration of different perspectives and trajectories of pursuit by means of internal (i.e., intra-psychic) and external (i.e., relational) complexification.

6. GOING EMOTIONAL: MOMENTS OF MEETING AS A BRIDGE BETWEEN THE TWO PHASES

Thus far we have been discussing the dynamics of intentionality in rather abstract terms since our goal was primarily to reconstruct the energetical

and motivational requirements and characteristics of the first phase of pursuit. It is in order now, however, to provide some further context.

In philosophy of science, the situatedness of epistemic agents and the consequent plurality of theoretical outlooks has been dealt with via perspectival understanding of knowledge (Giere, 2006; Massimi, 2017), a notion that different methods capture different aspects of the intrinsically complex reality. For some, perspectivism implies knowledge is perforce fragmented, i.e., rationality of knowledge equals a rational division of labor among paradigms or disciplines (e.g. Giere, 2006, cf. Chang, 2020). As shown by Sandra Mitchell (2002; 2003), however, the explanation of complex biological phenomena, such as insects' collective behaviors, requires simultaneous ingenious application of several theoretical approaches. Melinda B. Fagan, in her turn, points out the obvious fact that interdisciplinary research hinges on integration of diverse perspectives. Building upon the work of Michaela Massimi (2016a; 2016b; 2018), Fagan proposed that integration is to do with self–other positioning in a mutual relationship. But how is such a relationship established given the intrinsically polarizing character of the first phase of pursuit?

Let us start with the basics. The relationship between a certain *I* and a certain *other* implies their *distinctness*, which is what the first phase of pursuit is all about. Note that the concept of coupling, taken on its own, is not a well enough calibrated instrument to capture that point—to say that integration qua coupling is a condition sine qua non of action and knowledge does not allow us to discern that for some things to become integrated each of them must first be made sufficiently distinct. All in all, the logic of the first phase of pursuit is to push differentiation to its highest limits relative to the initial ambiguity as defined by stage 1, but not beyond that—we need just enough distinctness to be able to realize the lopsidedness and move toward reconciliation from there.

Still, assuming we have achieved maximum differentiation, how are we to integrate? And what does integration mean in the first place?

Bear in mind that beliefs or theoretical positions are formed by way of specialization and personalization which means that by now they have different agendas and practical commitments attached to them. As shown, at stage 2 agents are likely to both overestimate the extent of mutual rapport and exaggerate the differences between their own and competing approaches, which makes them unable to correctly capture what they agree and disagree about. We hence cannot hope to settle the issues that tend to emerge toward the end of stage 2 through rational deliberation in, for example, Jürgen Habermas' sense (1984), where each participant takes "yes" or "no" positions with respect to other participants' claims.

The subtitle of this section—"going emotional"—is somewhat provocative and should not be read overly literally. The point I am trying to make is not

that integration can be achieved by non-discursive means, but rather that there are several preconditions that the discursive engagement through which integration is ultimately achieved must meet. Simply put, a proper setting is required, such that participants can be temporally freed from the pressure of immediate concerns (hitting quotas, etc.) in order to be able to engage each other in a non-competitive way. Based on Stone's case study of an interdisciplinary practice (2013), we are entitled to assert that integration can only happen through a discursive engagement conducted in a setting reminiscent of a group therapy. [8]

Psychologically speaking, integration of perspectives is something that can happen through the so-called moments of meeting (Stern, 1985), or meetings in presence (Copper, 2016). What we need, that is, are synergistic interactions able to broaden and transform the platform by causing an emergence of higher order psychological control (regulatory) centers (Schore, 2001), to be contrasted with a "mechanical" unification by means of reduction of plurality of viewpoints to a common denominator. "Synergistic" here means that such interactions momentarily expand agents' states of consciousness (Tronick, 1998) and thus grant them access to that which is normally—due to the inherent cognitive and ethical limitations, as well to the pressure of immediate concerns—beyond their reach, capacity, or control. This kind of interactions make it possible for agents to reveal to themselves and one another all the crucial, and mostly tacit, commitments, assumptions, interests, etc., and thereby provide an opportunity to reorganize their self-understanding vis-à-vis others and following that, to redefine their respective roles in line with the now-revealed interdependency (Stone 2013, cf. Hobson 2002). Such interdependence may over time develop into a relationship of mutual reliance (Alonso, 2009).

To further explain the idea, consider that every specialized activity is inevitably biased. To keep the bias in check, tacit assumptions used in the construction of a viewpoint must at some point be examined. This is especially important in science (Andersson, 1994, p. 98), where all kinds of heuristics are implemented during experiment design as well as in the very process of model/hypothesis construction (excessive idealization, subconscious reliance on metaphors, etc.). Even research questions are loaded with unexamined presuppositions.

Heuristics of this sort are a necessary part of research and cannot be simply banned. Nor should the assumptions behind them be critiqued too early. The kind of confrontation brought about during the moments of meeting, however, provides an opportunity for parties to engage one another in a mutually corrective way. More specifically, moments of meeting can be ex-

---

[8] It appears that "talk" therapies, insofar as they are effective, appear to rely exactly on the mechanism of intense right-brain-to-right-brain synchronizations as described below (Dumas et al., 2010; cf. Tronick, 1998; Schore, Schore, 2008).

plicated via the concept of triadic engagement, a situation in which partici-pants shift attention from an object to another person's approaching the same object or issue from a different standpoint (Tomasello et al., 2005). That is, since agents can now see where each of them is coming from, anoth-er person can fill the gaps present in one's own view, and vice versa. When-ever one person momentarily pulls back with her agenda, the other person may immediately step in. Critically, the pattern of interaction between the two perspectives/agendas that emerges in the interaction is something that agents can subsequently *share* as a regulatory schema. In other words, what we are talking about is a development of a psychological mechanism where-by a pattern of interaction *between people* becomes internalized as a specific dynamic organization of the *I* and *other* positions *within each person in-volved* (Schore, 2015; 2021; Tronick; 1998), thus transforming their respec-tive psychic structures in the direction of ever-greater complexity.

Pacherie (2012) also recognizes the capacity for self–other differentiation as crucial for the exercise of shared agency, but she limits her discussion thereof to what transpires during episodes of joint attention (or "we-experiences"). As we can see, however, moments of meeting are not goals in themselves. The whole point is that we-experiences that arise during mo-ments of meeting can have a lasting psychological impact on participants—they enable participants to eventually differentiate from one another by way of establishing a recurrent pattern of self-activation and inhibition (e.g., Ruby, Decety, 2001), which replaces previous demarcation. Put another way, we-experiences develop participants' self-reflection, that is, their ability to perceive themselves in relation to and in contrast with others (Bertau, 2016). Ultimately, transformations occasioned by properly orchestrated moments of meeting enable agents to *think according to another* (Merleau-Ponty, 2012, p. 184), that is, to retain another person's point of view in one's mind *in their absence*, which in turn allows them to advance the insights they have gained during moments of meeting individually (see stage 3).

We could put it this way. After a synergistic exchange, each participants' awareness has a fully manifested field-like quality relative to an area of con-cern. That is, each participant is now a composite *I–other*, which means that whatever one does moving forward, there will be a bit of room left for the other-perspective to correct one's course of action against. We may say that once this kind of transformation has been achieved, the other person can begin to act as a counterpoint to one's own activity, with her intentions—now fully developed, delimited, and revealed—providing rational constraints upon one's own actions and intentions (cf. Roth, 2003). This allows agents to retain singularity of focus while performing of specialized tasks without transgressing the boundaries of shared endeavors (see stage 3).

We are dealing with shared agency, then, whenever (1) another's inten-tion becomes efficacious with respect to one's own activity (Bratman, 1999a,

p. 125), by virtue of (2) having become an attractor in one's own space of intentions, i.e., a contributing factor in the process shaping the trajectory of activity, and vice versa. What this means is that the model under presentation does not instrumentalize individuals (i.e., individual intentions and plans) by identifying them with trajectories (lines attractors) within a space (cf. Pacherie, 2012). Rather, each individual is a field in its own right. Shared agency, in other words, is a form of resonance or overlap between or among different fields (autonomous systems). Insofar as individuals can come in and out of resonance with each other—joint forces with each other and then undertake to pursue certain lines of activity independently—the system they form with others retains its developmental potential.

Let us take interdisciplinary research at the cross-section of physics and biology as an example of shared agency. Insofar as the physicist's discoveries are meant to be applicable to biological reality, it would not make sense for him/her to follow every interesting lead. On the other hand, his/her contribution would be useless were he/she simply to adopt conceptual and methodological perspectives of the biologists—he/she would be doing the same thing the biologist does, but less efficiently, and there would be no one to cover the other part of the field. Instead, within a joint venture, the biological perspective regulates the physicist's conduct by revealing at each point the relevant boundary conditions of his own endeavor, thus limiting— properly shaping, that is—his/her moves. It is also a potential source of inspiration by suggesting different models or metaphors potentially leading to discovery. In other words, this type of collaboration does not require conceptual unification to the point of allowing direct cross-perspectival assessment (Massimi, 2016b; 2018) and hence direct mutual control, but rather ascribes to each agent, qua a member of a dynamical system, the role of a generator of boundary conditions for the other (see stage 3).

Note also that it is not recommended that joint endeavors rely too heavily on direct contact between agents. Direct mutual engagement brings with it a risk of interpersonal factors (temperamental dispositions, character traits, ambitions, etc.) intervening to distract agents from the shared purpose by eliciting excessive mutual attraction or repulsion. The regulatory model entails that in proceeding to act on their own after a moment of meeting, each participant takes a piece of another along with him for a ride, so to say, and by regulating his conduct against her, he ends up advancing the other-position as well, and does so in a more disinterested way than its de-facto occupant would be able to. During periodically recurring moments of meeting within confines of what now can be called a joint endeavor, our partners can help us reroute by projecting back to us our counterfactual image as they have advanced it during practical engagement in problem-solving. We can say, then, that it is by losing every now and then sight of one another

can participants hold each other to the highest possible, and yet realistic, standards.

All this fleshes out in more concrete terms Massimi's distinction between the context of application, whereby agents (researchers) follow guidelines (methodologies) internal to their perspective (discipline or paradigm) and the context of assessment, whereby their internal outlook and trajectory of action is constrained and corrected by the perspective of another (2016a, 2016b).[9]

7. STAGE 3

Once a new form of dynamical equilibrium has emerged, we are facing another challenge—one must translate the shared/complex vision into specific tasks and develop appropriate habits to perform these. Put another way, the internalized web of interdependencies—an organized system of various *I*-positions (perspectives, agendas, etc.)—forces agents to temporally decouple in order to develop certain insights, or test certain approaches, on their own, using their unique expertise.

More specifically, stage 3 in our model consists in the production of (to borrow from music theory) "canons"—smaller contrapuntal units designed to address certain types of coordination problems in practice. Assuming, for instance (example taken from Stone, 2013), that the pivotal interaction involved a number of professionals representing highly specialized roles, such as a medical doctor, process engineer, nurse, health care lawyer, e.g., now about to delineate the space of a joint venture (pain management policy in this case), our goal at this point would be to come up with a set of combinations of *I*–positions and corresponding *other*-positions (nurse/doctor, lawyer/doctor, engineer, etc.), each based on a certain regulatory pattern whereby one role both inspires and delimits the other (see also the physicist–biologist interaction in the example above).

We could say that at this stage, two perspectives are related to each other by way of "direct contrast" according to Fagan's classification of modes of relationships between perspectives. This is a situation where one perspective acts as a negative image of the other (Fagan, 2020, p. 40). During moments of meeting, it becomes possible to hold different perspectives in view simultaneously. In contrast, to perform a specific task, one must exclude other perspectives from view. Since, however, and in the extent to which, task performance is embedded in a system of *I*–*other* formed during a moment

---

[9] Note that I am using here the expression "context of assessment" in broad terms to refer to all conceivable modes of mutual constraint, not merely to cross-perspectival assessment (see the remark made earlier in the next).

of meeting, alternative perspectives can nonetheless act as a set of implicit constraints on the trajectory of activity.

8. STAGE 4

The advancement and proliferation of paradigms (stage 3) may reach a point when they become divorced from the central (shared) concern that inspired them. A final step is therefore necessary to properly close the cycle and thus ensure that the process will have been fully owned by each of the agents/participants.

Psychologically, the cycle closes once and on the condition that *each participant* has developed a "metaposition" (Hermans, 2016; Cooper, 2016) with respect to the now fully established dynamical organization of all relevant positions. Metaposition may hence be said to represent a "viewpoint of no one in particular" (Fine, 2004) viz., a standpoint from which *every* position *as developed thus far* can be approached and assessed by *each* agent within the field in a disinterested way. This is possible because at this point each we are dealing with formal (relational) aspects of the situation rather than specifics of the endeavor. Importantly, metaposition does not entail that a complete picture has been painted and there is nothing to further investigate. Quite the contrary, the main purpose of self-reflection toward the end of a cycle is to assist in delineation of directions for future activities, some of which will be self-corrective.

The function of reflection mediated by metaposition in the context of shared agency—and complex agency in general—can be specified as follows. First and foremost, reflection serves to more explicitly define the character of the relationships between different positions/roles within a field. Roughly, some of these relationships will tend to be mutually supportive (amplifying), while others mutually challenging (restricting). Depending on the nature of the relationship, different strategies will be deemed appropriate in the future. In this regard, one must also bear in mind that the categories of relationships designate certain tendencies, meaning that every two positions—including one position at different points in time—no matter how harmonious they may seem to be at the first sight, just by virtue of not being identical will possess mutually antagonistic features as well (and vice versa). Most of all, then, each cycle is expected to further develop a reflective awareness allowing agents to track *changing relationships* between different positions across different situations along the lines of mutual support, antagonism, and neutrality (or strategic disregard).

Yet another set of distinctions whereby the field is organized is to do with a statistical distribution of positions/roles among agents—each agent has by now developed an awareness that certain positions are more likely to be

occupied by herself than by others, and vice versa. This axis represents specialization, i.e., the fact that each agent brings to the table unique expertise and contributions which are nonetheless perceived by each of them as parts of a broader constellation. Simply put, the intersection of roles that the standard model describes as the crux of shared agency is fully achieved at this stage—as *a result of* acting together, that is— and only on the condition that the previous stages have been navigated properly.

Based thereupon, reflection can serve to identify unexplored territories, neglected areas, unresolved issues, and unintended consequences of actions thus far taken (especially at stage 3), whereby future directions can be more or less directly delineated. Subsequent cycles are expected to bring about ever more fine-grained differentiation and hence also ever more complex unity.

One must certainly let go of reflective attitude as oneopens a new cycle of activity, and yet the pattern of self-organization acquired in the preceding one is expected to help one navigate stage 1 more smoothly by circumscribing novelty one is bound to face. That is, an agent is typically better attuned to the environment next time around. More generally, over repeated cycles an agent is expected to have developed relational self-awareness allowing him or her to more efficiently recognize the stage one is in and what it entails.

All in all, complexification achieved at the end of each cycle manifests itself at two levels at once: intra-psychically ("within"), as improvement in the ability to hold alternative perspectives simultaneously in view when needed, and relationally ("between"), as a steady rhythm of alternation between perspectives, in a figure–ground fashion, that establishes itself over several cycles of coordinated activity.

9. CONCLUSIONS

The standard typically attached to the concept of agency is control—intention (thought) is supposed to continually supervise and correct performance (behavior). As applied to shared agency, this means mutual control—every participant supervises one's own performance and additionally tracks what is happening at the intersection of one's own activity and that of another's (Pacherie, 2012, p. 353). The dynamical approach diminishes the role of executive control in action performance by replacing it with responsiveness in the state of coupling, but the idea is essentially the same. That is, both these commonsensical approaches entail that whenever direct mutual control or responsiveness becomes impossible, due either to either a physical distance between agents, or, especially, to a high-degree of role specialization, we are forced to deny contributors the full range of agency and to

ascribe the latter to some higher level of organization, be it an authority figure or a higher-order system.

In contrast to this, the regulatory approach advanced here designates as a standard for agency in general what we may call, after Gruber (Gruber, Bödeker, 2005), *loose coupling*. The concept explains all intentional processes, be it individual or joint, that include the element of novelty—and in that sense possess creative components—by assuming that many different lines of activity, associated with various interests (concerns), agendas, perspectives, etc., must be first allowed to develop relatively independently only to become integrated at the right time. In this light, intentional activity is essentially messy, though intelligible. In this paper, I have tried to add to the intelligibility of the process by demonstrating that its orderliness can be tracked by applying dynamical system thinking. This permitted us to identify different cognitive and emotional (motivational) challenges that agents typically face at different stages of pursuit and to examine how they relate together.

We showed that depending on the stage of pursuit, self-organization will sometimes require compartmentalization or sequencing of different lines of pursuit whereas at other times all the conflicting perspectives and agendas must be kept simultaneously in view. Integration, as explained, is a psychological mechanism leading to intra-psychic complexification which increases each agent's capacity to operate in a counterfactual mode of inner dialogicality understood as the ability to follow, or enact a regular rhythm of self-activation and withdrawal.

REFERENCES

Alonso, F. M., *Shared Intention, Reliance, and Interpersonal Obligations*, Ethics, 2009, vol. 119, pp. 444−475.

Andersson, G. *Criticism and the Growth of Science: Kuhn's, Lakatos's, and Feyerabend's Critiques of Critical Rationalism*, Koln: E. J. Brill, Leiden−New York 1994.

Bertau, M. *Developmental Origins of the Dialogical Self: Some Significant Moments*, in: Hermans, H.J.M., DiMaggio, Giancarlo (eds.), The Dialogical Self: Between Exchange and Power, Routledge, New York 2016, pp. 29−42.

Bowden, S., *Joint Action and the Expression of Shared Intentions: An Expanded Taylorian Account*. European Journal of Philosophy, 25, 2017, pp. 440−462; doi: 10.1111/ejop.12158.

Bratman, M. E., *Shared Cooperative Activity*, The Philosophical Review, 1997, vol. 101, pp. 327−341; https://doi.org/10.2307/2185537

Bratman, M.E., *Faces of Intention. Selected Essays on Intention and Agency*, Cambridge University Press, 1999 (a).

Bratman, M. E., *"I Intend That We J,"* in: Faces of Intention. Selected Essays on Intention and Agency, Cambridge University Press, Cambridge 1999(b).

Bratman, M. E., *Reflection, Planning, and Temporally Extended Agency*, The Philosophical Review, 2000, vol. 109, pp. 35−61.

Bratman, M. E., *Shared Agency*. In: Philosophy of the Social Sciences: Philosophical Theory and Scientific Practice*, Mantzavinos, C. (ed.), Cambridge University Press, Cambridge 2009, pp. 41−59.

Chang, H., *Pragmatism, Perspectivism, and the Historicity of Science*, in M. Massim, M., M. D. McCoy (eds.), Understanding Perspectivism: Scientific Challenges and Methodological Prospects, Routledge, New York 2000.

Chemero, A. P., *Radical Embodied Cognitive Science*, MIT Press, Cambridge, MA 2007.

Chirimuuta, M., *Vision, Perspectivism, and Haptic Realism*, Philosophy of Science 2016, vol. 3, pp. 46–756.

Cooper, M. *Encountering Self–Otherness: 'I–I' and 'I–Me' Modes of Self-Relating*, in: Hermans, H. J. M., DiMaggio, G. (eds.), op. cit., pp. 60–73.

Davidson, D. *Essays on Actions and Events*, Clarendon Press, 1980.

De Bruin, L.C., S. Haan, *Enactivism & Social Cognition. In Search of the Whole Story*, Cognitive Semiotics, 2012, vol. 4, pp. 225–250; https://doi.org/10.1515/cogsem.2012.4.1.225

De Bruin, L.C., Kästner, L., *Dynamic Embodied Cognition*, Phenomenology and the Cognitive Sciences, 2012, vol. 11, pp. 541–563; https://doi.org/10.1007/s11097-011-9223-1

De Jaegher, H., & Di Paolo, E., *Participatory Sense-Making: An Enactive Approach to Social Cognition*, Phenomenology and the Cognitive Sciences, 2007, vol. 6, pp. 485–507.

De Jaegher, H., & Di Paolo, E., *Neither Individualistic nor Interactionist*, in: Embodiment, Enaction, and Culture: Investigating the Constitution of the Shared World, C. Durt, T. Fuchs, C. Tewes (eds), MIT Press, Cambridge, 2017, pp. 87–106; https://doi.org/10.7551/mitpress/9780262035552.003.0005

Dewey, J., *The Reflex Arc in Psychology*, The Psychological Review, 1896, vol. 4, pp. 357–370.

Dreyfus, H., *Skillful Coping: Essays on the Phenomenology of Everyday Perception and Action*, Wrathall, M., (ed.), Oxford University Press, Oxford 2014.

Dumas, G., Nadel, J., Soussignan, R., Martinerie, J., Garnero, L., *Inter-brain Synchronization During Social Interaction*, PLoS One, 2010, art. 5:e12166; doi: 10.1371/journal.pone.0012166

Fine, A., *The View of No One in Particular*, in The Pragmatic Turn in Philosophy: Contemporary Engagements between Analytic and Continental Thought, Egginton, W., Sandbothe, M. (eds.), State University of New York Press, Albany 2004, pp. 115–130.

Giere, R., *Scientific Perspectivism*, University of Chicago Press, Chicago 2006.

Gray, J., McNaughton, *The Neuropsychology of Anxiety. An Enquiry into the Function of the Septohippocampal System*, Oxford University Press, Oxford 2000.

Gruber, H.E., Bödeker, K. (eds.), *Creativity, Psychology and the History of Science*. Springer, Dordrecht 2005.

Habermas, J., *The Theory of Communicative Action*, T. McCarthy (ed.), vol. 1, Beacon Press., Boston 1984.

Hermans, H. J. M.,*The Dialogical Self in Psychotherapy*. In: The Dialogical Self: between Exchange and Power, Hermans, H.J.M., DiMaggio, G. (eds.), Routledge, New York 2016, pp. 13–28.

Hobson, P. *The Cradle of Thought*, MacMillan, Oxford, 2002.

Hutto, D., Myin, E., *Radicalizing Enactivism: Basic Minds Without Content*, MIT Press, Cambridge 2013.

Massimi, M., *Three Tales of Scientific Success*, Philosophy of Science, 2016 (a), vol. 83, pp. 57–767.

Massimi, M., *Bringing Real Realism Back Home: A Perspectival Slant*, in: The Philosophy of Philip Kitcher, Crouch, M., Feifer, J. (eds.), Oxford University Press, Oxford 2016(b), pp. 98–120.

Massimi, M., *Perspectivism*, in: The Routledge Handbook of Scientific Realism, Stasi, J. (ed.), 2017; https://www.taylorfrancis.com/chapters/edit/10.4324/9780203712498-14/perspectivism-michela-massimi?context=ubx&refId=429bd3ce-141d-4f6a-adc8-dc47d9007432

Massimi, M., *Four Kinds of Perspectival Truth*, Philosophy and Phenomenological Research, 2018, vol. 96, pp. 342–359.

McGilchrist, I., *The Master and His Emissary: The Divided Brain and the Making of the Western world*, Yale University Press, New Haven 2010.

Mele, A., *Springs of Action: Understanding Intentional Behavior*, Oxford University Press, Oxford 1992.

Menary, R., *What is Radical Enactivism*, in: *Radical Enactivism: Intentionality, Phenomenology and Narrative. Focus on the philosophy of Daniel D. Hutto.*, Menary, R. (ed.), John Benjamins Publishing Company, 2006, 1–12.

Merleau-Ponty, M., *Phenomenology of Perception*, Landes, D. (trans.), Routledge, London 2012.

Millikan, R. G., *Pushmi-Pullyu Representations*, Philosophical Perspectives, 1995, vol. 9, 1995, pp. 185–200. *JSTOR*; https://doi.org/10.2307/2214217. Accessed 31 Oct. 2024.

Mitchell, S. *Integrative Pluralism*, Biology and Philosophy, 2002, vol. 17, pp. 55–70.

Mitchell, S. D., *Biological Complexity and Integrative Pluralism*, Cambridge University Press, 2003.

Noë, A., *Action in Perception*, MIT Press, Cambridge 2004.

Kutz, C., *Acting Together*. Philosophy and Phenomenological Research, 2000, vol. 61, pp. 1–31; https://doi.org/10.2307/2653401

Pacherie, E., *The Phenomenology of Joint Action: Self-Agency vs. Joint-Agency*, in A. Seemann, (ed.), Joint Attention: New Developments, MIT Press, Boston, 2012, pp. 343–389.

Panksepp, J., *Affective Neuroscience: The Foundations of Human and Animal Emotions*, Oxford University Press, New York 1998.

Polanyi, M., *Personal Knowledge: Towards a Post-critical Philosophy*, Routledge, Kegan & Paul, London 1962.

Roth, A. S., *Practical Intersubjectivity*, in: Socializing Metaphysics: The Nature of Social Reality, F. Schmitt (ed.), Rowman & Littlefield, 2003, pp. 65–91.

Ruby P., Decety J., *Effect of Subjective Perspective Taking During Simulation of Action: A PET Investigation of Agency,* Nature Neuroscience, 2001, pp. 546–550; doi: 10.1038/87510. PMID: 11319565.

Salomone-Sehr, J., *How to Be Minimalist About Shared Agency*, Philosophy and Phenomenological Research, 2024, vol. 109, pp. 155–178; https://doi.org/10.1111/phpr.13030

Scharff, D. E., *Redefining the Object and Reclaiming the Self*, International Psychotherapy Institute, 1992/2020.

Schore, A. N., *Attachment and the Regulation of the Right Brain*, Attachment & Human Development, 2000, vol. 2, pp. 23–47.

Schore, A. N., *Effects of A Secure Attachment Relationship on Right Brain Development, Affect Regulation, and Infant Mental Health*, Infant Mental Health Journal, 2001, vol. 22, pp. 7–66.

Schore, A. N., *Affect Regulation and the Origin of the Self: The neurobiology of Emotional Development*, Routledge, London–New York 2015.

Schore A. N., *The Interpersonal Neurobiology of Intersubjectivity*, Frontiers in Psychology, 2012, art. no 12; https://www.frontiersin.org/articles/10.3389/fpsyg.2021.648616

Searle, J., *Collective Intention and Action*, in: Intention in Communication, S. Pollack et al. (eds.), MIT Press, Cambridge, 1990, pp. 404–415.

Sheldrake, R., *The Presence of the Past: Morphic Resonance and the Habits of Nature*, Icon Books, London 2011.

Stern, D. N., *The Interpersonal World of the Infant*, Basic Book, New York 1985.

Tomasello, M., Carpenter, M., Call, J., Behne, T., and H. Moll, *Understanding and Sharing Intentions: The Origins of Cultural Cognition*, Behavioral and Brain Sciences, 2005, vol. 28, pp. 675–735; https://doi.org/10.1017/s0140525x05000129

Trevarthen, C., *The Self Born in Intersubjectivity: The Psychology of an Infant Communicating*, In Neisser, U. (ed.), The Perceived Self: Ecological and Interpersonal Sources of Self-knowledge, Cambridge University Press, New York, 1993, pp. 121–173.

Tronick, E. Z., *Dyadically Expanded States of Consciousness and the Process of Therapeutic Change*, Infant Mental Health Journal, 1998, vol. 19, pp. 290–299. https://doi.org/10.1002/(SICI)1097-0355(199823)19:3<290::AID-IMHJ4>3.0.CO;2-Q

Tronick, E., Gold, C. *The Power of Discord: Why the Ups and Downs of Relationships are the Secret to Building Intimacy, Resilience, and Trust*, Little, Brown, Spark, New York 2020.

Varela, F. J., Thompson, E., Rosch, E., *The Embodied Mind: The Cognitive Science and Human Experience*, MIT Press, Cambridge 1991.

ABOUT THE AUTHOR – PhD, Institute of Philosophy and Sociology of the Polish Academy of Sciences

Email: Anna Martin <michalskanna@gmail.com>