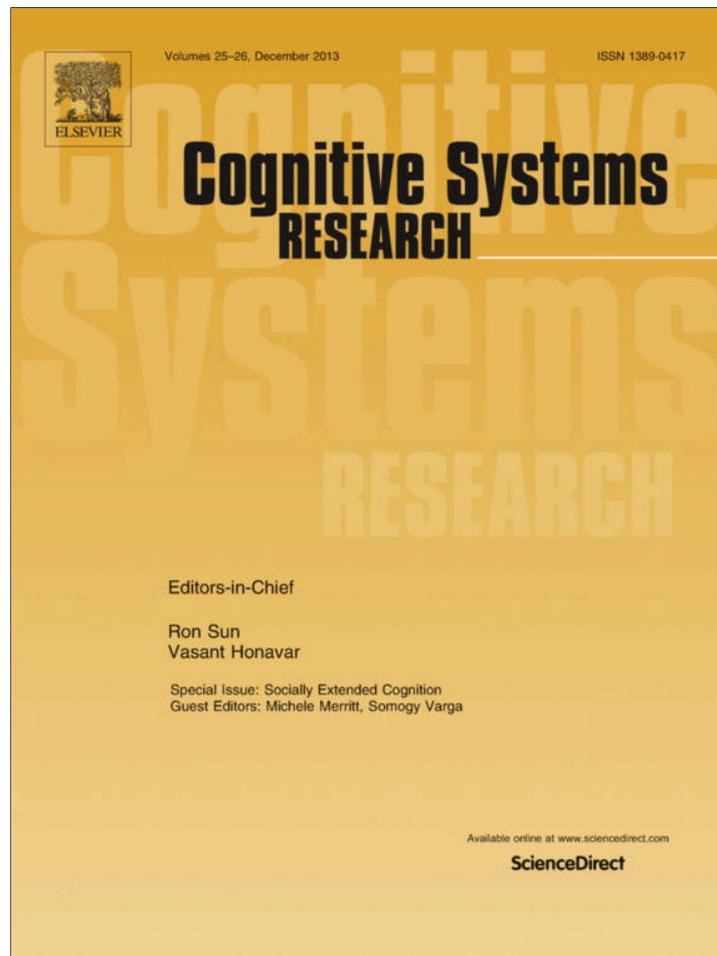


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Rigid and fluid interactions with institutions

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Abstract

In two recent papers, Shaun Gallagher asks the question of how we interact with institutions. To answer it, he proposes to expand Clark and Chalmers' extended mind hypothesis into the societal realm. He introduces the idea of the *socially extended mind*, to reflect the fact that social institutions can help us to perform cognitive tasks that we would not be able to do without them.

Drawing on work by Carol Gilligan, I argue that the socially extended mind view is limited to addressing patriarchal, rule-based, hierarchical institutions and interactions, and unable to grasp democratic, fluid and horizontal aspects of society. Gallagher is sensitive to a similar worry and suggests a combination of the socially extended mind and enactive ideas. At first sight, it might seem as if enaction would be the ideal candidate to address the democratic aspects of society, and so the two would be good bed fellows. But I argue that this is unlikely, due to the incompatibilities between enaction and the extended mind. I claim instead that the enactive approach to intersubjectivity—participatory sense-making—can capture both patriarchal and democratic aspects of society. Patriarchy and democracy can be seen as lying on the spectrum of participation, which ranges from orientational sense-making to joint sense-making. Enaction investigates the relations along the whole spectrum and how they play out in actual social interactions, also with institutions.

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1. Introduction

In an interesting proposal to link recent work on embodied cognition with concerns in the domain of sociology, Shaun Gallagher expands Clark and Chalmers' (1998) concept of the extended mind into the realm of society. Clark and Chalmers hypothesise that the constituent processes of cognition are not brain-bound. Tools and material objects extend our cognition. Gallagher adds to this that institutions do so too; they can allow us to accomplish cognitive tasks that we would find difficult or impossible to do without them. In this way, a social institution would be not just a regulator of behaviour, but also an enabler of

individual action. Thus, we can speak of a 'socially extended mind' (Gallagher, 2013; see also Gallagher and Crisafi, 2009). This is a mind enhanced by interactions with what Gallagher calls 'mental institutions'—societal institutions through which, by cognitively engaging with them, "we extend and transform our cognitive processes" (Gallagher, 2013, ms. p. 4).

Gallagher illustrates the concept of the socially extended mind with the example of the legal system. When dealing with a legal problem, we have certain tools at our disposal: sets of laws, experts who know the laws and how to interpret them, protocols for the set-up of events and procedures, behaviour rules, roles, and so on. When a person interacts with such a system, says Gallagher, "[t]he cognition involved is distributed. There is a distribution across a number of participants—including the experts" (ibid., ms. p. 5). The thinking carried out in these contexts cannot

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“be reduced to purely ‘in the head’ processes” (ibid., ms. p. 5).

Although the extended mind hypothesis may seem to be the appropriate framework to think about this enabling role for social institutions, it has a number of problems, many of which are carried over into the idea of a socially extended mind. Gallagher is aware of this. He reminds us that the extended mind is one that is “constituted by beliefs, desires, and other propositional attitudes, and . . . by representations and informational states” (ibid., ms. p. 3, emphasis in original). As Gallagher says, this does not capture all of cognition, and therefore he proposes that elements from an enactive theory of cognition are needed to address the dynamic, embodied, affective, and social aspects of our interactions with institutions.

However, it has been argued that the extended mind and enaction are not compatible (see Di Paolo (2009); Thompson and Stapleton (2009); Wheeler (2010a)). I think the fact that Gallagher proposes to use both approaches reveals a possible tension in his thinking on this topic—a tension that brings to the surface something interesting about society and our interactions with its institutions. Societal structures and human cognition reflect each other—they intertwine and each reveals something about the other. The theories that we make and apply in order to understand both are also related. The extended mind approach, at first sight, may explain something of our interactions with institutions, like how we deal with rule-based systems that coordinate the actions of several people productively. Here, institutions are pre-existing and relations instrumental. But it overlooks the embodied, affective, and more messy interactions that make this intersubjective coordination possible in the first place and produces the social meaning-making that sustains and modifies these institutions.

Using the work of developmental psychologist Carol Gilligan to illustrate my argument, I will show that there are affinities between the rule-based cognitive systems that extended mind theory captures and patriarchy, and that the extended mind might be restricted to explaining so-called patriarchal structures in society. Patriarchy is characterised by rigid, hierarchical, gendered relations that, once installed, cannot easily be negotiated. But societies are complicated systems and they usually do not only have patriarchal structures, but also democratic ones, where subjects participate on an equal footing and generate intersubjective and societal meanings, roles, and relations in fluid ways. At first sight, it might seem as if enaction, with its focus on subjectivity and interaction, would be the ideal framework to capture these democratic elements, thus making a good companion to the extended mind.

However, I claim that enaction as an approach is more encompassing than this. It is not a mere complement to the extended mind idea. I will argue that enaction can capture the wide range of societal interactions on its own. The enactive approach to intersubjectivity—*participatory sense-making*—starts from a specific view on individuals

and their relations, rooted in ideas about biological autonomy (De Jaegher & Di Paolo, 2007; Di Paolo, Rohde, & De Jaegher, 2010). The conceptualization of individual and interactional autonomies and their interrelations gives enaction the power to deal with the full spectrum of interactions we have with institutions, ranging from democratic, participatory meaning-making to the more rigid and rule-based institutional normativity. Moreover, by also providing an account of how these forms of intersubjectivity and society relate to each other, I suggest that enaction can account for how institutions come about and are maintained and transformed—something that is much harder to account for on the extended mind account.

I propose that the extended mind approach is unsuitable for Gallagher’s purposes on grounds of its incompleteness. Instead we should adopt enaction to think about questions of how we interact with institutions and how they originate and evolve. Thus, I go further into the enactive direction pointed to by Gallagher. In this necessarily short paper I can only provide a sketch of the argument that enaction, based on its theoretical structure and its ontology, can account for the interplay between patriarchic and democratic social relations. I hope this sketch opens up avenues for future work in this area.

2. Patriarchy, democracy, extended mind, enaction

To see the point that I want to highlight, let’s take a look at two different ways in which we engage with social institutions, roles and norms: patriarchal and democratic relations, as described by Carol Gilligan. Patriarchy and democracy are anthropological terms that describe orders of living (Gilligan, 2003; Gilligan & Richards, 2009). Patriarchy is a loaded term and Gilligan is aware of that: she is not using it to refer to something simple like ‘men’s oppression of women’. Rather, patriarchy “is an anthropological term denoting families or societies ruled by fathers. It sets up a hierarchy—a rule of priests—in which the priest, the *hieros*, is a father, *pater*. As an order of living, it elevates some men over other men and all men over women; within the family, it separates fathers from sons (the men from the boys) and places both women and children under a father’s authority” (Gilligan & Richards, 2009, p. 22). Thus, patriarchy describes a particular form of societal structure, in which some people in society control others, and this hierarchical domination structure is installed and maintained through, among other things, a strict controlling of even the intimate interpersonal relations of society’s members. Patriarchal relations are also gendered, in that some men in such a structure control both other men and women. Democracy, in contrast, is an order of living based on relations among equals: everyone has a voice and is heard; relations, roles, and norms are understood and treated as open to change. In *The Deepening Darkness*, Gilligan and Richards (2009) tell patriarchy and democracy’s intricate history, conveying that their respective structures have always coexisted, even if one is more present than the other

in a given society, sub-culture, or historical period, and even if they are often in tension with each other.

I bring Gilligan's work into this discussion because she links the societal structures of patriarchy and democracy to aspects of human psychology. Broadly, this can be of interest to cognitive scientists and philosophers of mind who are interested in society. For our current purposes, her analyses help shed light on the tensions and connections between societal relations and our understanding of cognition.

According to Gilligan, patriarchal societal structures are reflected in human psychology by a series of splits: between mind and body, reason and emotion, self and relationship. The first side of each of these pairs is systematically associated with male characteristics and valued more highly than the second, which is seen as female and devalued.

These splits and the value given to each side are also typical of mainstream cognitive science, which is characterized by functionalism in general. That is, cognition is characterized as states and processes that obtain their meaning in relation to their function within a single overall cognitive architecture. Accordingly, intentionality based in information-processing, regulated reason and affect, task-orientation, and individuality are worthy of investigation. Body, spontaneity in reason and affect, idleness or play, and intersubjectivity—if investigated at all—are seen as inessential details or even as obstacles to the 'proper' workings of the mind, and therefore as not really belonging to the core of cognition research. The assumption seems to be that their investigation will provide a kind of add-on: their explanation, once we reach it, can just be summed with our understanding of information-processing and task-orientation, and then we will have the complete picture.¹ The extended mind is in line with functionalist thinking (Di Paolo, 2009; Wheeler, 2010b), in that it deals with cognitive agents that are primordially lone, information-processing individuals, instrumentally extending their "cognitive reach" (Gallagher, 2013, ms p. 6). The examples used by the extended mind theorists, and also by Gallagher when he introduces the socially extended mind, illustrate this. Let us see how.

When investigating how we interact with social institutions, Gallagher describes the example of Alexis, who is given a legal problem to solve and three different scenarios of how to go about this. The scenarios range from hardly any reliance on external resources—in which case Alexis "weigh[s] the evidence entirely in her own head" (Gallagher, 2013, ms. p. 5)—to making extensive use of what experts tell her. In the latter case, the legal experts "provide possible answers and a set of rules to follow in making her decision" (ibid.).

In this example, the functionalist fundamentals underlying the extended and the socially extended mind can be

clearly appreciated. The kind of cognition we are dealing with is one of abstract problem-solving, for which we need information, which we get from rules laid down in standard texts. Interactions between people are hardly more than instrumental and subservient data processing: the role of the legal experts in Alexis's conundrum is to provide her with information, and with instructions on how to deal with that information. What goes on in this situation is a distributed, rule-based, informational, 'stored in a system' kind of cognition. One gets the impression that the people involved are cogs and wheels in the machinery of the 'mental institution'. What a person gets from interacting with such a system is an extension and transformation of her cognition.

In the following analysis, I adopt Gilligan's terminology and refer to patriarchal structures as rule-based, hierarchical, rigid, and controlling of human relationships, and to democratic ones as fluid, horizontal, dynamic, and concerning free and equal human relationships. When looking at Gallagher's description of Alexis's work through the lens of Gilligan's ideas on the relations between societal structures and human psychology, we see the affinity between the extended mind and patriarchy. The interactions and cognitive activities described in the example are characterized by an individualist starting point, regulated rationality, rules previously set up, and hierarchical relations that specify how interactions with the institution are to unfold—the meaning of the activities exists by virtue of how they fit in the overall system. In patriarchal interactions, likewise, a small number of people has access to the determination of the laws and rules that everyone else has to follow, and rationality is regulated and fixed by instituted norms (Gilligan, 2003; Gilligan & Richards, 2009). Both functionalism and patriarchy are concerned with the functioning of ready-made, rigid systems defined by their place in a functional economy and thereby replaceable by any system that fulfils an identical function. They value this over free and spontaneous interpersonal connection, emotion and affect, the body, subjectivity, the question where meaning comes from and, generally, dynamic change, including the fluid emergence and transience of functionality (e.g. institutional rules) itself.²

Gallagher definitely does not want to paint a picture of societal interactions where these things are absent. Rather,

¹ Though for some recent counterarguments concerning affect, see Colombetti (2005) and Stapleton (2013).

² Here, I have not made explicit reference to the gender aspect that is so important in Gilligan's work. My point in this paper can be made without taking gender explicitly into account. However, for Gilligan, gender is crucial for understanding the relations between certain societal structures and specific aspects of human psychology (Gilligan, 1982, 2003; Gilligan & Richards, 2009). This is indeed one of the reasons why I find her insights useful here: because she argues that patriarchy values ways of interpersonally relating and cognitive activities (those associated with what can also be called 'male thinking') over those associated with 'female thinking'. It is another reason why a functionalist accounts of cognition can never be complete. While gender remains in the background in the current piece of work, I do think it can be important in a more elaborate enactive account of institutions, and also in an enactive ethics (see Colombetti and Torrance (2009)).

I think his example reveals lacunae in a functionalist approach to the question of how we interact with institutions. He is aware of the limitations of the extended mind, and this is one reason why he proposes to extend it into the social domain: in order to make it less conservative and more liberal by, for instance, allowing for critical appraisal of that which we ‘extend our cognition’ with. Clark has argued that whatever we extend our mind with should be readily available and straightforwardly trustworthy—we should not question or distrust it (Clark, 2008). Gallagher rightly suggests that a critical attitude is important for many cognitive processes, and should not be foregone in situations where we ‘socially extend our mind’. We can interact with social institutions, and this can help us achieve things that we couldn’t do on our own, while remaining critical of those institutions. I think that his concern for critical theory (Gallagher, 2013) points more to democratic aspects of society than to patriarchal ones, and especially to the question of how social institutions may be critically questioned and eventually changed. In other words, it points to how we participate in society.³ This is what makes him turn to enaction.

However, as I said above, I do not think that the elements that are missing from the extended mind view can just be added in order to get the complete picture. Doing this would not allow us to understand how the different elements relate, because they are seen from incommensurable perspectives. We need a newly framed canvas and fresh paints to not only to draw all the elements, but also to understand the composition: how the pieces hang together. Without understanding this, we will perpetuate a fragmented epistemology: functionalism for understanding rational disembodied individuals, plus whatever other theory or theories for the embodied, relational, affective, experiential, and subjective elements—elements that cannot be fully understood by functionalism, and therefore also cannot be integrated with instrumental rationality on a functionalist account. Moreover, as we move from the cognitive into the social domain, the boundary between the descriptive and the prescriptive in our theories becomes increasingly fuzzy. For this reason, it is my opinion that if we were to just have the extended mind view as an explanation—biased as it is towards rule-based description by the very nature of the questions it can ask—we would tend to perpetuate a fragmentary, hierarchical society characterized by inequality. Moreover, the theory would hardly tell us how institutions could be criticized or changed, because it is not capable of looking at the origin of and fluid changes in normativity. It is clear that this is not what Gallagher aims for.

It might seem like aligning democratic social processes with enaction would be the way to go, because it might seem to be the right theory to capture the embodied, relational, and affective aspects of mind. But this is not how it is. (And incidentally, this would be equally risky in prescriptive terms since it would invite a misguided abandonment of instrumental rationality—it is not its presence that is the problem, but its dominance.) Enaction is not an appendage that will add missing elements to functionalist accounts. It is also not a theory about just these elements. Enaction is a non-reductive, naturalistic theory of the mind that aims to capture the underlying relations between the rational, the emotional, the self, the relational, the mind, the body, and experience, based on a set of principles and a way of carving up the world that differ fundamentally from functionalist accounts (Di Paolo et al., 2010; Varela, Thompson, & Rosch, 1991). Enaction, in other words, provides a complete story on its own, rather than being a missing chapter. Thus, in the societal realm, rather than addressing only the democratic aspects, an enactive approach should aim to capture the full range of societal structures and engagements. Only on such an account will our epistemology and the way it reflects society and vice versa not be inherently piecemeal. Enaction (re)conceptualizes individuals and their relations in a way that makes it the ideal candidate for a full-blown account of our societal roles and engagements.

To clarify this point it is best to see it at work in an example. Let’s go back to Alexis. Would she have a legal problem at all if the law-books (the rule-based system) were all there is to the legal institution? If this were the case, there would have to be rules to point out which laws to use in each case. Such a situation would reduce the task of solving legal problems to working out what rules to apply, much like in a mathematical theorem demonstration. However, in the real world, laws must be interpreted. Their applicability and the claims made on them are not rule-based but depend on situated interpersonal, embodied and affective interactions. This is what allows a judge to make a fair ruling (or not) when different legal claims are in conflict. That capability is embedded in the judge’s history and situation, and it cannot be deduced simply from the law books. If it were, the law would be infallible. Legal history and the everyday news, however, show that it is not. Such capabilities, as well as many others, point to the underlying embodied and democratic aspects of any institution (only a rule-based computer program would be perfectly hierarchical). Understanding this makes the relation between the patriarchal and the democratic aspects of society bi-directional. We do not just follow rules, but create them, engage with them, and interpret them in a contextual manner. Eventually, when the rule, through its contextualized interpretation, is sufficiently stretched, it can get changed. This is what a full account of social institutions needs to capture. Moreover, as Gallagher discusses, individuals bring all kinds of issues to bear on their social roles, including immediate aspects of their embodiment

³ I am not using the notion participation in the sense in which it is used in political and management theory, where it refers to specific ways in which to ‘do’ democracy (participatory democracy). The notion as I use it here deals with how subjects interact with each other and make meaning together, and how this affects and is affected by societal engagements (De Jaegher & Di Paolo, 2007; Steiner & Stewart, 2009).

(see for instance the influence of the judge's hunger on his decisions, Dansiger, Levav, & Avnaim-Pesso, 2011, cited in Gallagher, 2013).

Put in the terms I have used, the problem that Gallagher addresses is not so much how institutions can extend individual minds, but how to best describe the relation between individuals and institutions so that it explains their mutual shaping. The underlying connection between the more fluid, embodied, affective, and the more solidified regulatory aspects of societal involvement can be addressed by participatory sense-making. Participatory sense-making—the enactive approach to intersubjectivity—begins from the idea of a self-organizing, experiencing, embodied, affective subject for whom things have meaning as they are relevant to her based on her intrinsic needs. She is autonomous in the sense that as a living, biological system, she self-produces and self-maintains.⁴ She could not do this without relying on the world, and her precarious autonomy implies dependence on the world. This dependence, as is the case for humans in a social world, can itself re-define aspects of her individuality. As is well-known, social dependence and social relations are fundamental for humans. We can distinguish at least two main sources of social heteronomy. One is found in face-to-face interactions. The enactive definition describes social interaction processes as autonomous in themselves (in the same technical sense of self-production), meaning that when people engage in an interaction, this interaction itself can 'take on a life of its own,' and *it* can influence the people engaged, over and above the ways in which they influence each other (De Jaegher & Di Paolo, 2007). Thus, people are influenced by others *and* by the dynamics of the interactions that they have with them. We could call this local heteronomy. Granic (2000) nicely illustrates this idea when she describes how aggressive relations between parents and their teenage children can become a developmental attractor (in dynamical systems terms). The second kind of social heteronomy is societal: people are influenced and even, to an extent, determined by social and cultural laws, regulations, and norms. More even, without the societal, cultural embedding, face-to-face interactions would hardly be possible. But the other way around is true as well: without face-to-face interactions, society would not exist. It is important to understand both these directions of influence (Giddens, 1976; Steiner & Stewart, 2009).

Interactions with institutions often happen at the 'face-to-face' level; through interactions with a person who represents the institution, whether it is a conversation over the phone or across a desk or via a letter or email. Therefore, we need to understand face-to-face interactions if we want to understand how we deal with institutions. Participatory sense-making addresses this through its definition of social

interaction and its conceptualization of interactional and individual autonomies and how they relate and affect each other so that individuals can participate in each other's sense-making.

Two further aspects of the theory of participatory sense-making are helpful here. The first is the spectrum of participation. When people make sense of each other and of the world together, they do this to different degrees of 'jointness'. At one side of the spectrum, we have high jointness. Here, the sense-making activities of both are so intertwined that it is hard to say who is contributing which emotion or intention. Rather, the intentions and emotions emerge from the interaction as such, in the 'in-between'. There is no determinable author of a particular thought or idea. At the other side of the spectrum, a person makes sense more or less individually, and the other only points or orients him in a certain direction. Here, someone's sense-making may be guided, but it is clear that an intention was formed by one individual, and merely 'tweaked' by the other. The second helpful aspect is another spectrum, that of symmetry of roles in interactions or relations. When interacting with another person, or with an institution, one or other partner may be more or less 'dominant,' more or less influential. In such asymmetric relations or interactions, the degree of influence that each partner has is different.

In interactions with institutions, it is sometimes the case that the partner representing the institution has a large amount of influence, and the person interacting with 'it' can do but what the institution prescribes (the person is oriented by the institution in a highly regulated, 'grammaticalized' way, through limited options, legal considerations, forms, signatures, deadlines, etc.). Such institutional domination is a hallmark of patriarchal relations. Functionalist accounts of cognition like the extended mind seem well-suited to address this kind of configuration because, in this conception, the institution provides the rules for the cognitive processes and all the individual can do is to follow or not those rules (but hardly ever attempt to change them). This is illustrated in Gallagher's example of the legal system, in which "the questions, possible answers, and rules create the tracks along which the cognitive processes must run to keep them, literally, legitimate" (Gallagher, 2013, ms. p. 5). On an enactive account, these kinds of interactions lie on the orientational end of the spectrum of participation, where the respective roles of each participant are asymmetrically divided.

But the ways in which humans and institutions interact are often more messy than this. Interactions with institutions may be characterized by one-sided domination ("the law is the law"), but they may also be more bi-directional (client and lawyer together interpreting the law to their advantage and to make their case, thereby potentially setting precedents and eventually maybe changing the law through amendments). The rules may be laid down, but people question institutions from the moment they start interacting with them and interpreting what they 'want'.

⁴ This is the operational notion of autonomy as a self-distinguishing network of processes that sustain themselves under precarious conditions, central to enaction (see Varela, 1997; Thompson, 2007; Di Paolo, 2005; Di Paolo, 2009).

These messy interactions are the democratic underbelly of hierarchies without which they could not function. Think, for instance, of how people agree about what rules are to be followed seriously and what rules are just nominal or flexible or to be ignored. Another example comes from Gilligan and Richards' analysis of the history of patriarchy. They found that there is almost always resistance in a patriarchal system, in which both men and women partake, because without it (due to the gendered hierarchies of patriarchy) it would be impossible to maintain equal relationships between men and women (Gilligan & Richards, 2009).

We need to understand the direction and the qualities of influences between persons and between persons and institutions. We also need to understand the ways in which individual autonomies are or may be enhanced or diminished in interactions, and the effect of this on their sense-making processes. Once persons interact with institutions through and together with other people, it may become possible to tear away at the experienced impenetrability and solidity of certain institutions, and to see how they are or can be transformed. And, it becomes possible to see how “they are not only cognition producers [but also] cognition produced” (Gallagher & Crisafi, 2009, p. 49).

Two other aspects are foregrounded by the shift to a full enactive account of social institutions that I propose. One important issue is that, for different reasons, on functionalist accounts, *concern* is not an issue. It does not make a difference that it matters to someone that he has to go to court—or, more generally, that he has this or that kind of interaction with this or that institution. On the extended mind view, cognition is “a set of processes that loop in and out of brains and social institutions that are designed with cognition in mind” (Gallagher & Crisafi, 2009, p. 49), and it is “constituted by beliefs, desires and other propositional attitudes, and ... by representations and informational states” (Gallagher, 2013, ms. p. 3). What these ‘representations’ mean to the person who ‘has’ them, is of no interest. However, on an enactive account, concern is an essential aspect of cognition. Concern is what makes things in the world meaningful for an agent. Without concern, no meaning. Concern is central to sense-making—the significance of the specific world of the particular agent engaging with it. Without understanding concern and without understanding how people participate in each other's sense-making, we cannot answer the questions of why institutions exist, how they are maintained, and how they change.

With this also comes the question of responsibility, something not easily graspable on functionalist accounts, and generally dealt with one-sidedly in patriarchal interactions. Following rules entails removing personal responsibility (at least partly) by making it itself rule-determined. In contrast, when engaging with an other and understanding that the rule does not fully cover the situation and should sometimes be questioned, bent, changed, or (re)interpreted, personal responsibility becomes possible,

necessary, and central, and an issue to be understood and investigated.

3. Conclusion

I intended to bring something of Gilligan's work to an audience of cognitive scientists and philosophers of mind because she makes a connection that should be of interest to them, namely between certain societal structures and human psychology. The division between patriarchy and democracy, and that between associated aspects of human psychology seem to resonate with a division between cognition defined functionally, and cognition defined as meaning-for-a-subject rooted in his or her self-organization, embodiment, context, affect, and experience. But just like patriarchy and democracy, and mind, body, self, relation, affect, experience, and reason are difficult to disentangle in practice, so it is hard to maintain a functionalist understanding without understanding the underlying fluidity—the resistance, the messy meaning-making, the gurgling underbelly of society and mind. On the enactive view, in society as well as in psychology, there exist both patriarchal and democratic tendencies. These categories are not opposites, but lie on a spectrum, and are often intricately intertwined. The framework of participatory sense-making can capture this spectrum and this interrelation, because it views individuals as essentially related and at the same time as self-organizing, self-maintaining, and in this sense distinct subjects. Their autonomy implies a dependence on the world and on others (Kyselo, 2012). This is why I have proposed in this paper that enaction can best deal with this complex picture, better than a piece-wise combination of the extended mind view and enaction.

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References

- Clark, A. (2008). *Supersizing the mind: Reflections on embodiment, action, and cognitive extension*. Oxford: Oxford University Press.
- Clark, A., & Chalmers, D. J. (1998). The extended mind. *Analysis*, 58(1), 7–19.
- Colombetti, G. (2005). Appraising valence. *Journal of Consciousness Studies*, 12, 103–126.

- Colombetti, G., & Torrance, S. (2009). Emotion and ethics: An inter-(en)active approach. *Phenomenology and the Cognitive Sciences*, 8(4), 505–526.
- Dansiger, S., Levav, J., & Avnaim-Pesso, L. (2011). Extraneous factors in judicial decisions. *Proceedings of the National Academy of Sciences*, 108(17), 6889–6892.
- De Jaegher, H., & Di Paolo, E. (2007). Participatory sense-making: An enactive approach to social cognition. *Phenomenology and the Cognitive Sciences*, 6(4), 485–507.
- Di Paolo, E. A. (2005). Autopoiesis, adaptivity, teleology, agency. *Phenomenology and the Cognitive Sciences*, 4(4), 97–125.
- Di Paolo, E. A. (2009). Extended life. *Topoi*, 28(1), 9–21.
- Di Paolo, E. A., Rohde, M., & De Jaegher, H. (2010). Horizons for the enactive mind: Values, social interaction, and play. In J. Stewart, O. Gapenne, & E. Di Paolo (Eds.), *Enaction: Towards a new paradigm for cognitive science*. Cambridge, MA: MIT Press.
- Gallagher, S., & Crisafi, A. (2009). Mental institutions. *Topoi*, 28(1), 45–51.
- Gallagher, S. (2013). The socially extended mind. *Cognitive Systems Research*, 25–26, 4–12.
- Giddens, A. (1976). *New rules of sociological method: A positive critique of interpretive sociologies*. London: Hutchinson.
- Gilligan, C. (1982). *In a different voice*. Cambridge, MA: Harvard University Press.
- Gilligan, C. (2003). *The birth of pleasure: A new map of love*. New York: Vintage books.
- Gilligan, C., & Richards, D. A. J. (2009). *The deepening darkness. Patriarchy, resistance, and democracy's future*. New York: Cambridge University Press.
- Granic, I. (2000). The self-organization of parent-child relations: beyond bidirectional models. In M. D. Lewis & I. Granic (Eds.), *Emotion, development, and self-organization. Dynamic systems approaches to emotional development* (pp. 267–297). Cambridge: Cambridge University Press.
- Kyselo, M. (2012). From body to self – Towards a socially enacted autonomy, with implications for locked-in syndrome and schizophrenia. Unpublished PhD thesis. University of Osnabrück, Osnabrück.
- Stapleton, M. (2013). Steps to a “properly embodied” cognitive science. *Cognitive Systems Research*, 22–23, 1–11.
- Steiner, P., & Stewart, J. (2009). From autonomy to heteronomy (and back): The enaction of social life. *Phenomenology and the Cognitive Sciences*, 8(4), 527–550.
- Thompson, E. (2007). *Mind in life: Biology, phenomenology, and the sciences of mind*. Cambridge, MA: Harvard University Press.
- Thompson, E., & Stapleton, M. (2009). Making sense of sense-making: Reflections on enactive and extended mind theories. *Topoi*, 28(1), 23–30.
- Varela, F. J. (1997). Patterns of life: Intertwining identity and cognition. *Brain and Cognition*, 34, 72–87.
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience* (6th ed.). Cambridge, MA: MIT Press.
- Wheeler, M. (2010a). Minds, things, and materiality. In C. Renfrew & L. Malafouris (Eds.), *The cognitive life of things: Recasting the boundaries of the mind*. Cambridge McDonald Institute for Archaeological Research Publications.
- Wheeler, M. (2010b). In defence of extended functionalism. In R. Menary (Ed.), *The extended mind*. Harvard: MIT Press.