COMMENTARY

Towards an Expansive Hybrid Psychology: Integrating Theories of the Mediated Mind

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Abstract This article develops an integrative theory of the mind by examining how the mind, understood as a set of skills and dispositions, depends upon four sources of mediators. Harré's hybrid psychology is taken as a meta-theoretical starting point, but is expanded significantly by including the four sources of mediators that are the brain, the body, social practices and technological artefacts. It is argued that the mind is normative in the sense that mental processes do not simply happen, but can be done more or less well, and thus are subject to normative appraisal. The expanded hybrid psychology is meant to assist in integrating theoretical perspectives and research interests that are often thought of as incompatible, among them neuroscience, phenomenology of the body, social practice theory and technology studies. A main point of the article is that these perspectives each are necessary for an integrative approach to the human mind.

Keywords Hybrid psychology · Normativity · Brain · Body · Social practice · Technology

Introduction: Two Psychologies Revisited

It is a basic fact about the history of psychology that the discipline has been perpetually divided into two different strands. Famously, Wilhelm Wundt founded the first psychological laboratory in 1879 in order to carry out psychological experiments. The goal was to study the causal effects of independent variables (sensory stimuli) on dependent variables (human experience). This causal approach to psychological research has since become firmly established as the preferred way of studying psychological phenomena across most paradigms in psychology (behaviourism, cognitive science, neuroscience etc.). It is used today not only to

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study experience but any psychological phenomenon. Indeed, in the eyes of many research psychologists, the causal approach represents the only legitimate—i.e. scientific—methodology.

Critics of the causal approach argue that studying the meaningful phenomena we call psychological (e.g. thinking, problem-solving, acting, learning, feeling) by causal means rests on a misunderstanding. Smedslund's criticism is particularly to the point when he argues that there is a mismatch between current (causal) research methods and the nature of psychological phenomena, because of the fact that the latter take part in shared meaning systems (Smedslund 2009). It is simply misguided to study meanings causally, and, if one proceeds to do so anyway, the result is what Smedslund calls pseudo-empirical work. For example, if psychologists were to study the alleged causal relation between finding oneself in an unexpected situation (independent variable) and experiencing surprise (dependent variable), they would be doing pseudo-empirical research, because there is a conceptual, semantic and normative relation between "unexpected situation" and the emotion of surprise. This can be demonstrated by the fact that we can explain what we mean by surprise by saying that it is the emotion one feels in an unexpected situation. There is an internal rather than an empirical relation between the two. If this emotion is absent in some situation, it means that the person does not really find the situation to be unexpected. Thus, if researchers are unable to find a correlation between the two variables, we should not conclude that surprise and "unexpected situation" are unrelated, but rather that something has gone wrong in the experiment. For causal-empirical "results" cannot falsify conceptual and normative necessities. The normative laws of logic are not falsified even if no one ever manages to reason perfectly logically. And bachelors are unmarried men even if no bachelors exist. According to Smedslund, psychological relations and regularities are generally of this conceptual sort, and although we may find "local and temporal statistical regularities that can be useful for practical, for example socio-political purposes" (e.g. that the establishment of high-school soccer teams leads to a decline in drug use), "such research is not aimed at advancing the science of psychology", Smedslund concludes (p. 791).

As is well-known, Wundt also inaugurated a second, non-causal psychology, a *Völkerpsychologie*, concerned with how human beings live in cultural worlds of mythologies, languages and values, and how these play a role in the mental lives of acting persons. This other psychology is intrinsically concerned with meaning rather than causality, and it has survived and even flourished in its own ways since Wundt's time under such headings as sociocultural psychology (Valsiner and Rosa 2007), cultural psychology (Cole 1996) and discursive psychology (Harré 1998). Although these traditions are different, they are united by the idea that the proper subject matter for psychology is human meaning-making, i.e., how humans as individuals and in collectives construct, uphold and manage meaning, e.g. through semiotic mediation (Valsiner 2007) or discursive acts (Harré 2004). Meanings are normative, for in order for a word, symbol or sign to have meaning, it must be possible to distinguish correct from incorrect uses (Wittgenstein 1953). This is why we may summarize the different traditions of the "second psychology" as normative psychologies.

The distinction between causal and normative psychologies owes much to Harré's work (e.g. 1997, 2002). Under the heading "hybrid psychology", Harré has recently developed and defended his own version of normative psychology, which is promising from an integrative viewpoint because it does not eschew what is valid in the causal tradition of psychology. Rather, the point for Harré is to construct a meta-theory for psychology as a hybrid science that integrates the causal approaches that are legitimate when we study the brain (and other material objects that are relevant for mental processes) with the normative approaches that are indispensable if we want to study humans as intentional, meaning-making creatures.

In this article, I wish first to briefly present Harré's hybrid psychology as a promising starting point for integrative theories of the mind, but I subsequently aim to extend his theory to include other mediators (as I shall call them) apart from the brain. Harré believes that the domain of psychology is exhausted by persons and what persons say and do (see e.g. Harré 1998), and his hybrid psychology aims to integrate neuroscience and discursive psychology by showing that the brain as a tool (studied by neuroscience) mediates what persons say and do (studied by discursive psychology). This minimalist ontology should be extended somewhat, I will argue, to include human bodies, social practices and also technological artefacts as three other sources of mediators (in addition to the brain), which, together, constitute the human mind. I will try to show that these mediators are not unconnected: As the brain needs a living body in order to function as a mediator of psychological acts, so the body needs social practices to socialize it and its habits, just as sociality in the human sense needs technological artefacts in order for social relationships to be sufficiently stabilized so that human societies can emerge. We can depict these layers of mediators in the following way:

We should be careful not to be led astray by this spatial model. Clearly, the brain is "inside" the body in a spatial sense, but the body is not "inside" the social practices in a similar way, just as the social is not "inside" technologies. The points that I will develop below are rather that technologies in a metaphorical sense "contain" the social and its norms by stabilizing them (Latour 1996), that the social norms similarly stabilize or structure bodily acts and habits (Bourdieu 1977), and that the body finally contains the brain and gives meaning to human experience (Johnson 2007). My admittedly quite general and ambitious argument will be that all sources of mediators should in principle be included in our scientific work in order for us to achieve a full understanding of the mind and psychological phenomena. This will give us a more comprehensive hybrid science that transcends the boundaries between neuroscience, traditional psychology, sociology and cultural anthropology. In practice, most research projects are legitimately carried out with a focus on just one or two of the sources of mediators—and so it is likely to be in the future as well—but my argument is that all integrative psychological research should in principle remain open to, and be compatible with, research that throws light on the other sources of mediators. This paper merely represents a first step in this direction, intended to examine how a number of different theories can be integrated by using Harré's hybrid psychology as meta-theory, and many details of the different theoretical perspectives will have to be left out in order for me to focus on the

more general issues (some of these details are reported in Brinkmann 2009, on which some of the following is based).

The Mind as Skills and Dispositions

Before explaining Harré's work and the layers of mediators depicted in Fig. 1, I believe it is necessary to briefly analyze what it is that we are trying to explain, viz. the mind. For Fig. 1 depicts sources of *the mind's mediators*, but what is the mind, and what is a mediator? The normative psychologies build on the premise that the mind is normative (Brinkmann 2006). This means that the mind cannot be equated with purely receptive or experiential consciousness or what is sometimes referred to as *qualia* in contemporary philosophy of mind, nor can it be equated with any substance or entity, not even the material entity of the brain. Why is that? Because if the mind were identical with some causally operating process or entity in the world or brain, we could have no way of distinguishing psychological phenomena from physiological ones, and since we are in fact able to make this distinction, it means that the mind cannot be purely causal. An example from Harré (1983) may illustrate what this means: Although dread, anger, indigestion and exhaustion all have behavioural manifestations as well as fairly distinctive experiential qualities (*qualia*), we have no trouble concluding that only the two former phenomena should be included among psychological phenomena, whereas the two latter ones are physiological. Why so? Because, argues Harré, dread and anger are psychological phenomena to the extent that they fall within a normative moral order, where they can be evaluated according to local norms of correctness and appropriateness. Dread and anger do not merely *happen*, like physiological phenomena, but are *done*, and are therefore subject to normative and indeed moral appraisal. One can feel and express legitimate as well as illegitimate anger, whereas indigestion may be painful and annoying, but it is meaningless to say that it can be legitimate or the opposite. Psychological phenomena—our ways of perceiving, acting, remembering and feeling—do not simply happen, but can be done more or less *well* relative to local customs, norms and conventions. In short, they are normative.

Fig. 1 Mediators of the mind
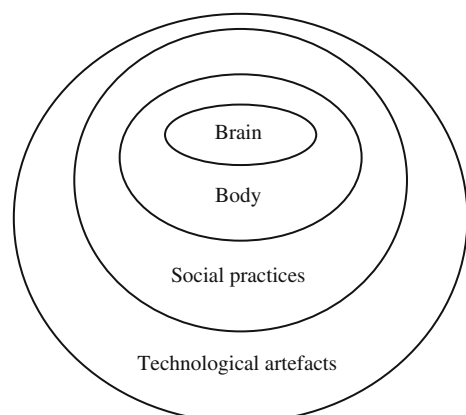
The mind therefore cannot be an entity, for an entity is not assessed normatively in itself. Only what someone *does* (e.g. with a thing) can be so assessed. To study the mind is thus to study a set of skills and dispositions to act, feel and think in particular ways. And we cannot determine whether someone has a skill by examining the person's brain, but only by studying the *acting person* in her practical life activities. To have a mind is not to have some "thing" attached to the brain or the body (for skills are not "things"). Rather, for a creature to have a mind "is for it to have a distinctive range of capacities of intellect and will, in particular the conceptual capacities of a language-user which make self-awareness and self-reflection possible." (Bennett and Hacker 2003, p. 105). In other words, using the concept of mind is to use "a generic term for our various abilities, dispositions and their relationships" (Coulter 1979, p. 13). It is not to talk about a place (e.g. the "inner world") or an object (e.g. the brain). Hilary Putnam has made a similar point from the standpoint of pragmatism: "the mind is not a *thing*; talk of our minds is to talk of *world-involving capabilities that we have and capacities that we engage in*." (Putnam 1999, pp. 169–170). And he goes on to quote John Dewey, who insisted that "Mind is primarily a verb. It denotes all the ways in which we deal consciously and expressly with the situations in which we find ourselves." (Dewey 1934, p. 268).

Along with Dewey, we should reject the widespread tendency in psychology to reify the mind by treating it as an independent entity, which *does* certain things (attends, remembers etc.). The mind does not do these things. Persons do such things, and it is exactly their capacities, abilities, capabilities, and dispositions to do these things that we refer to with the term 'mind'. Valsiner (2007, p. 125) refers to a related fallacy as "entification", which is the fallacy of treating psychological constructs (e.g. personality, intelligence) as causal entities "in the mind" that cause persons to do certain things. Again, it is better to follow Dewey and insist that psychological phenomena are adverbial; they concern things *done*, which means that there are no psychological entities as such (e.g. intelligence, anger), but only persons and what they do (they may act intelligently, angrily etc.) (see also Billig 1999, for a convincing defence of an adverbial approach to the emotions).

Thus, in general terms, it is fruitful to think of the mind as a verb rather than a noun, as an activity or process rather than a static entity, and, when we do so, we address the mind as a normative phenomenon. This is old news as it was stressed by Aristotle 2.500 years ago. Aristotle approached mental phenomena as dualities (see Brinkmann 2006): Such phenomena may be underpinned by physical changes in the body that call for causal explanation, but they remain incomprehensible if we do not take their basic normativity into account. Natural scientists, the *phusikos*, may define a mental phenomenon such as anger as "a boiling of the blood", Aristotle says (cited in Robinson 1989, p. 81), but "the dialectician" would rightly add that anger—normatively speaking—should be defined as "the appetite for returning pain for pain" or something like this (p. 81). The latter, unlike the former (boiling of the blood), can be justified or unjustified. In the face of injustice, anger is rightly called for, whereas boiling of the blood is merely present or not as a pure causal effect (Brinkmann 2006). If this phenomenon were entirely causally induced in organisms, it would not be mental, for in that case we could never discuss its appropriateness. And we do discuss the appropriateness of anger—as well as that of other mental phenomena.

If the mind is a set of skills and dispositions to act, think and feel, which can be assessed normatively, then some old problems dissolve and new ones arise. The Cartesian problem of how to find a place for the mind in a physical universe is no longer pertinent, for this problem presupposed that the mind was an (immaterial) substance that somehow had to be hooked up with the material world. But if the mind is not a substance, it is neither material nor immaterial. Skills and dispositions are hardly approachable in these terms. Instead, the question to ask is what enables the skills and dispositions to unfold and come under control of persons. My answer below is that the four sources of mediators depicted in Fig. 1 constitute the mind as a set of skills and dispositions.

The next thing to ask is what it means to say that the mind is *mediated* by the different forms of mediators depicted in the model. What is a mediator? Here I use the term in a deliberately vague and inclusive sense to refer to practical relations between persons and objects or processes that do not simply carry intentions or motives undistorted, but translate the meaning they are supposed to carry (see Latour 2005). Mediators are resources that we may use to communicate, cooperate and construct things together, but they are not simply intermediaries that transport without transforming. Borrowing from Latour's descriptions, we can say that mediators "transform, translate, distort, and modify the meaning or the elements they are supposed to carry." (p. 39). Language mediates the human capacity to think, for example, not by carrying bits of pure meanings undistorted from one mind to the next, but by enabling complex forms of conceptual thinking as such. Language is the "vehicle of thought", as Wittgenstein said (1953, §329), but, as a vehicle, it affects and often even constitutes what it carries. Similarly, to stay with vehicles, my car mediates my activity of travelling large distances, not just by enabling me to realize my intention of going to Paris, but by enabling me to form the realistic wish of traveling to Paris in the first place.

It might be objected that I stretch the mediator concept too much by using it to talk about the brain, for example. In a recent useful overview, Gillespie and Zittoun (2010) distinguish between different forms of mediation, or "uses of cultural resources", as they also put it, as either tool or sign mediation on the one hand, and reflective or implicit mediation on the other, which result in four general forms. I allow myself to use the concept of mediation in this context, because it seems to be a promising point of intersection for many different disciplines and research agendas that may be fruitful in integrative work. And, following Gillespie and Zittoun, talk of the brain as mediator would be an example of implicit (i.e. non-reflective) tool mediation, like driving a car (where the car functions as mediator), and although the brain (unlike the car) is an ever-present mediator in psychological life, I believe it is legitimate to use the term in this context.

For someone like Latour (2005), who is perhaps the most influential contemporary theoretician of mediation, mediators constitute an entire relational ontology that extends far beyond the human realm. In Latour's eyes, nothing is a mere intermediary, not even the simplest relation between objects (e.g. when one physical object collides with another), for every thing (or actant, in his preferred terminology) stands in mediated relationships with other things, or, in other words, things are always linked through *translation* (see Harman 2009). Extending the meditational ontology further than psychology, however, is beyond the scope of the

present paper, which concentrates on psychology and other human and social sciences (depicted in the layers of the model), although it could definitely add to, and possibly challenge, the arguments of this text.

Wittgenstein, Vygotsky and Harré's Hybrid Psychology

It is in particular from Wittgenstein (1953) that the idea originates, which is taken up by Harré, that the mind is normative (Brinkmann 2006; Harré and Tissaw 2005). But Wittgenstein's philosophy cannot alone provide us with the foundations for a scientific psychology, since he paid little attention to the empirical realities of developing persons. In order to supplement Wittgenstein's account of the normativity of the mental with a more viable psychological approach, we need to include Vygotsky's psychology, which is much more attuned to human development. And Vygotsky happens to lack exactly what was in focus for Wittgenstein and his followers—the normative approach to psychology—which is why they complement each other quite well, as also Harré (2002) argues.

What Vygotsky contributes and what he lacks can perhaps best be explained with reference to his most famous example. In his developmental theory, the higher mental functions (such as thinking, remembering, will) are formed ontogenetically when adults interpret, and act upon, the child's non-social behaviors, thereby transforming biological dispositions into social acts (this will be explained in greater detail below). The famous example discussed by Vygotsky (1978) concerns what happens when a child is trying to reach something by performing a grasping movement. Adults subsequently bring that something to the child, who thereby gradually learns to perform a pointing gesture. Learning to use social signs, such as intentionally pointing one's finger, implies entering a social world of meaningful signs that are regulated normatively in ongoing social practices. But what is significantly *not* discussed by Vygotsky, is the very normative moral order surrounding this development, for—to make the point simple—not everything that the child points to will be brought to the child, and there is definitely such a thing as *inappropriate* pointing (e.g. unsuitably pointing at strangers on the bus), when the child is likely to be reprimanded rather than rewarded for pointing. Thus, an important part of learning to point involves learning *when* to point, and at *what*. There is a pervasive moral normativity to pointing, as to all other uses of signs in social situations. Becoming a mature human agent implies becoming accountable in relation to this moral normativity (Brinkmann 2010).

Harré integrates Wittgenstein's eye for the normative with Vygotsky's eye for the developmental in his hybrid psychology that is built around the following three assumptions: (1) The task-tool metaphor, (2) the idea of grammars of everyday life and (3) the taxonomic priority principle. I will explain each in turn. (1) The task-tool metaphor is meant to explain how psychological phenomena are enabled by material conditions. According to Harré, people are constantly engaged in tasks (looking for the keys, baking cookies, writing books, trying to remember a friend's birthday), which, as a whole, make up the subject matter of psychology. These tasks are performed by persons exercising the skills that constitute what we call the mind, and the relevant performances are subject to assessments of right and wrong. In other

words, they are normatively constrained (Harré 1997). But the tasks can only be brought to fruition—more or less satisfactorily—by means of material mechanisms, notably the brain (but also other bodily organs). The brain is therefore the most significant tool in carrying out our psychological tasks. We can say that the brain is a central mediator in all psychological operations. These cannot be reduced to the brain, even if the brain is necessary for them being performed. The widespread attempts at reducing psychological phenomena to brain processes are fallacious, because they violate some basic rules for how to apply psychological predicates. That is, they commit what Bennett and Hacker (2003) refer to as the mereological fallacy. 'Mereology' is the logic of part-whole relations, and the mereological fallacy is committed when scientists ascribe (psychological) properties to a *part* of the living human being, typically the brain or the "mind", which in fact make sense only when ascribed to a human being (or an animal) as a *whole*. The brain does not attend, think, feel, remember or act. Only human beings do these things, and although they could not do them without their brains, this does not mean that the brains are doing them. Likewise, my car could not move without its engine, but that does not mean that it is the engine that is moving. It is the car as a whole. The mereological fallacy arises from a misguided metaphysics, deeply entrenched in Western thought, which is the tendency, described by Coulter and Sharrock, "to suppose that 'what anything is' is *identical* (in the very strongest sense) with 'what it is made of'." (Coulter and Sharrock 2007, p. ix). If the mind exists, so it goes according to this misguided metaphysics, it must be made of physical matter (the brain), for anything in the universe is material, and mental predicates must thus be ascribable to the brain, if anything. Understanding that the mind is not a thing but skills and dispositions should enable us to overcome this metaphysics.

When our brains malfunction, e.g. because of neurological defects that result in dementia, we may as cultural beings use other tools. If we cannot use the brain to remember particular details (e.g. birthdays), we may use a mediating notebook instead. This, of course, is not just something that we do in cases of brain dysfunction, but is a pervasive aspect of human life. We use different sorts of cultural resources and cognitive technologies ranging from glasses, pencils, calculators and computers to books and mindmaps to carry out numerous tasks. This allows us to "supersize our minds" as a species (Clark 2008). It is now common to analyze how such tools mediate the mind's functions, particularly from the Vygotskian perspective (Wertsch 2007), and although it is less common to refer to the brain as a mediator, I believe we have reason to do so if Harré's task-tool metaphor is valid for understanding the relationship between meaningful tasks and material mediators.

(2) When neuroscientists study the brain, they use a particular "grammar", to use Harré's Wittgensteinian phrase. Grammars are clusters of rules for how to express oneself meaningfully, and, as rules, they are normative and social (Harré 2002). Neuroscientists conventionally employ what Harré refers to as the Molecular grammar. This grammar rightly identifies molecules and clusters of molecules as basic, agentive particulars, and the relevant scientific explanations are given in causal terms. Thus, melatonin molecules can cause persons to sleep by inducing a change in brain rhythms (p. 149). No normativities are implied here, and we do not praise or blame the molecules for doing what they do (although we may blame the person for falling asleep).

Another grammar is the Organism grammar that is applied to discourse about animals that are capable of acting for a purpose (survival, foraging, care for offspring) without acting intentionally in the full, human sense. They are not fully intentional, and we can only ascribe responsibility to non-human animals in a metaphorical sense. Only persons, as expressed in the third Person grammar, are responsible. Only persons (not their molecules, brains or bodies) are blamed when they are unable to remember something that others believe they should have remembered. According to Harré, tasks are identified relative to the Person grammar, for only persons bake cookies or forget their friends' birthdays, but the workings of the tools are explained according to the other grammars, most often the Molecular grammar. The Molecular grammar operates with causes and can be used to discover and express natural necessities. The Person grammar operates with reasons and normativities and expresses conceptual and semantic necessities (cf. the section on Smedslund above). The hybrid psychology is meant to integrate the causal explanations of the material tools with the normative explanations of the psychological tasks.

(3) In order to do so properly, we must keep in mind what Harré calls the taxonomic priority principle. This principle expresses the (logical and scientific) primacy of the Person grammar in psychology. In short, the principle states that tools are defined relative to the tasks that they can be used to perform (Harré 2002). This means that organic and molecular items are picked out as relevant to meaningful psychological phenomena "by criteria drawn from the use of the Person grammar in managing the symbolic exchanges with which people carry out cognitive tasks in everyday life." (p. 138). For example, we only know what to do with a brain scan of a person reading, if we know what reading is and can identify it in everyday life (and reading, of course, is a normative activity that only persons can perform). The Person grammar is always primary in psychology. The causal explanations of neurological processes associated with reading are necessarily parasitic upon the normative identification of reading as a meaningful performance. This goes for all psychological activities: The descriptions of tasks in terms drawn from the Person grammar take priority over the explanations of the tools that are needed to carry out the tasks (drawn from the Molecular and Organism grammars). In other words, Wundt's "second", normative psychology (cultural, discursive, qualitative) is more basic than what is otherwise thought of as the "first", causal and experimental, psychology.

So far, I have argued that the brain is a mediator for the skills and dispositions that we call the mind. As a mediator, it is not just a neutral means for realizing our intentions of carrying out certain tasks, but it clearly shapes the intentions that we have (Latour 1996). At the same time, an understanding of the tasks cannot be reduced to an understanding of the mediator. We cannot reduce talk of acting persons to talk of what their brains do without loss of meaning. We have seen that Harré's hybrid psychology aims to integrate the causal explanations of the material tools with the normative explanations of the psychological tasks, and, before moving on, we must consider the objection that this leads to an ill-founded metaphysical dualism.

From Harré's perspective, it is the case that when we employ the different grammars, we are addressing ontologies. Ontologies, as he says, are grammars or "specifications, some explicit, some implicit, of ways of identifying and marking the boundaries of particulars for some purpose or other." (Harré 1997, p. 178). Sciences

are created when humans choose ontologies, so, in this trivial sense, the sciences are social constructions. They are human activities, but this does not mean that "reality is whatever we say it is" (p. 174). What it means, rather, is that the choice of ontology "is largely justified pragmatically". (p. 178). We employ ontologies relative to the interests that we have, so when we are interested in neurophysiological aspects of human beings, we operate with the Molecular grammar, and when we are interested in humans as intentional creatures, we operate with the Person grammar. This enables us to understand particular features of the world.

In general, however, we should not take the word "employ" in a voluntaristic sense here, for in most cases we do not "choose" to engage with others or ourselves as persons, using the Person grammar, since for most practical purposes we *have to* do so in order for anything to be meaningful at all. Even the starkest eliminativist materialist cannot avoid having recourse to the Person grammar in deliberating about what to do or in evaluating the reactions of other people, and if she wanted to convince others of the truth of her favored (yet misguided) philosophical theory, she would in any case have to present them with good reasons that it would be better justified or more reasonable to be an eliminative materialist. In doing so, she would have to address them as persons and presuppose the normative conceptions that she wanted to eliminate, which gives us reason to believe that we can never eliminate normativity or the Person grammar (Brinkmann 2011). We simply cannot do without this ontology and the way of talking and understanding that it involves, which is pragmatic proof of the reality of the normative aspects of the world (see also Taylor 1989). Does this lead us to some form of metaphysical dualism? No, it simply leads to the reasonable view that there are many sorts of properties and relations in the world, some causal and some normative, and if this view is dualist, then anyone claiming that the value of a banknote is wholly different from, say, its color or weight, would also be a dualist. A banknote has a certain value due to how we use it in normative economical transactions, and there is no reason to raise the question about the relationship between its value and its color as a deep, metaphysical problem. But there is reason to say that the normativity of money, and the whole capitalist economy, could not exist without mediators such as banknotes, credit cards, bank accounts, and other enabling conditions, just as the normativity of psychological tasks more broadly demands a range of mediators.

The Body as Mediator

I have argued that it is legitimate to address the brain as an ever-present mediator in psychological life, but it is similarly legitimate, and one might even say necessary, to address the body as an ever-present mediator. Like the brain, the body shapes the intentions, understandings, tasks and the mental life that it makes possible (which was our definition of a mediator). In order to understand the body's role as mediator of the mind, we must move on from neuroscience and towards pragmatism (Johnson 2007) and phenomenology (Merleau-Ponty 1945). These schools of thought have sought to overcome the Western dualism of mind and body. Merleau-Ponty can be singled out as the most significant theorist of the body as lived subjectivity. The body is simply more than an object that can be manipulated. We do sometimes consider bodies as objects,

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e.g. when we perform surgery, but this is a temporary phenomenon that cannot be existentially primary. Basic phenomenological descriptions tell us that the mind *is* the body in a sense, for our skills and dispositions are embodied. When I move my arm, I do not experience a mental act (of the will) that takes place prior to the movement. Rather, the will is *in* the arm, as part of me as a subject. This is what Merleau-Ponty wants to stress when he addresses the "lived body".

According to Johnson (2007), there are (at least) five different perspectives on the body: As a biological organism (e.g. in physiology and anatomy); as an ecological body (in constant transactions with the environment); as a phenomenological body (more on this below); as a social body that is gendered (Young 1980) and socialized in the form of *habitus* (Bourdieu 1977); and finally as a cultural body (decorated and shaped relative to local cultural norms). There are no rigid borders between these perspectives, but the phenomenological approach is particularly important, since it is concerned with the body as a mediator of our experience of a meaningful world (and thus of our mind) (Johnson 2007, p. 276).

The phenomenological body is the body as experienced pre-reflectively and pre-theoretically, and Merleau-Ponty argues that the basic form of intentionality is found in the motility of the body (Merleau-Ponty 1945). This means that mind should not be founded on a Cartesian "I think" but rather on a phenomenological "I can". The reflective forms of intentional consciousness, mediated by tools and signs, emerge from a more basic form of "operative intentionality", which "produces the natural and antepredicative unity of the world and of our life, being apparent in our desires, our evaluations and in the landscape we see" (p. xx). This basic form of bodily being-in-the-world implies that we first and foremost in-habit the world pre-reflectively, through bodily habits (Dewey 1934). The body and its habits of operative intentionality is the background to human experience that allows objects and events to appear as such in the foreground.

That might be so, a sceptic could argue, but when we talk about mediators of the human mind, we talk about something that first and foremost mediates our capacities for highly abstract, symbolic and meaningful thought. How can the body mediate these capacities? According to Johnson (2007), the body (or "body-mind" to use his preferred terminology) mediates these higher mental functions through metaphors. He argues that even logic and reason more broadly are embodied in this sense (p. 102). Metaphors enable us to go from meanings that are embodied in a very concrete sense (e.g. "pain is bad") to abstract thought (e.g. "a free press is a democratic necessity"). Johnson's theory implies the radical thesis that *all* theories and abstract concepts are metaphorically defined—and therefore ultimately grounded in embodied experience (see also Brinkmann and Tanggaard 2010). What does this mean? A metaphorical understanding is one where we understand one phenomenon in terms of another in such a way that there is no literal connection between the two. "The mind is a computer" is such a metaphor, all too familiar in the cognitive sciences. We can say "she took the first step toward medical school" without therefore implying that she moved in physical space. Traveling through physical space is here the metaphorical source domain—that we know from bodily experience—which structures our rather more abstract understanding of beginning a purposeful activity.

Johnson (2007) analyses several such metaphors in detail, for example the concept of understanding, which he finds is structured metaphorically by two very

different embodied experiences: "Understanding is seeing" versus "understanding is grasping". Although understanding is not literally bound up with seeing, we say such things as "can you see what I mean?" and "do you see the logic of the proof?" According to Johnson, it is an immediate, concrete, and embodied activity (seeing) that structures this abstract notion of what it means to understand something. This analysis may appear commonplace at first sight, but if we look at the implications of this metaphor for philosophy, pedagogy, and science in the Western world, it is clearly quite significant (beware that this preceding sentence itself drew on the visual metaphor three times—"at first sight", "if we look at" and "clearly quite significant"—which testifies to the pervasiveness of this metaphor in our understanding of understanding!). In fact, we may here have the source of one of the most fundamental metaphysical assumptions behind the scholastic educational system that plays a key role in the ways that modern societies reproduce themselves (see Brinkmann and Tanggaard 2010). The competing metaphor "understanding is grasping" is less pervasive in our lives, but we do sometimes say such things as "do you grasp what I mean?". Dewey's famous "learning by doing" can be interpreted to imply that it would be more fruitful for societal purposes if we organized educational practices around the grasping metaphor of understanding. The point here is not to settle the disputes between competing educational philosophies, but simply to point out that different embodied "image schemas" are activated when we think about (and enact) understand as seeing versus grasping.

This short analysis of the body as a basic mediator, not only of habitual and elementary forms of intentionality and mental life, but also of our higher mental functions and abstract forms of understanding, hopefully indicates how to integrate a perspective on the body into an expansive hybrid psychology. Needless to say, such integration is not achieved through these brief remarks, but I hope that the task of doing so at least appears feasible. Hopefully, it is also clear that the physiological mediators of mind are more than a disembodied brain, but includes a living, moving and experiencing body. But we cannot conclude (as some theorists of embodiment do) that being an embodied creature is *sufficient* for having a mind (as skills and dispositions) in the human sense. For those normativities that must be in place for mental life to unfold are not comprehensible in terms of the body alone. In order to understand the mind fully, we therefore also need to include a perspective on those social practices that provide the normative frameworks in which bodies move, act and suffer. For the bodies that mediate the mind as a set of skills and dispositions are able to do so only within social practices. Persons, in other words, are necessarily participants in social practices. Consequently, we now move to the next "layer" of mediators in Fig. 1.

Social Practices as Mediators

In cultural psychology, it is a basic, paradigmatic assumption that the mind is socially mediated. Again, Vygotsky's (1978) work is foundational with the famous argument:

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies

equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (Vygotsky 1978, p. 57).

For Vygotsky, the individual mind is a function of the social world—the "actual relationships between individuals"—which, as ordered social practices, mediates the exercise of the individual's skills that I have referred to with the term "mind". To address the mind through this social lens is to walk in the footsteps of Hegel and his followers. Hegel's (1977) famous *Phenomenology* from the early nineteenth century is a phenomenology of *mind* (or "spirit" in some translations), but the mind/spirit he talks about is not some ghostly or ethereal substance, but is the *Geist* that is addressed by the *Geisteswissenschaften* (e.g. Wundt's *Völkerpsychologie*). Mind/spirit is here close to the contemporary term culture, i.e. the humanly created, social and historical world in which we live and develop as mental creatures. Hegel understood the individual self as "the sameness and simplicity that relates itself to itself" (p. 12), which was later taken up by his heirs and critics such as Søren Kierkegaard, who argued that the mind/spirit is the self as a relation that relates to itself (Kierkegaard 1849). We are thus minded creatures to the extent that we not simply relate to the world (as other animals do), but relate to *how* we relate to the world. And this we can do, because we can use language and other meaningful signs (semiotic mediation); because we take part in a world of culture (in the Hegelian sense as *Geist*). For Kierkegaard, the Christian thinker, the relation that relates to itself (the self) is ultimately put in place by God, but later secular interpretations of the self (as this particular kind of self-relation) claim that it is constituted by culture and society (e.g. Mead 1934), which we may interpret pragmatically as an array of social practices (Brinkmann 2008). Through the exchange of signs in social practices (semiotic mediation), we become able to create a distance to the here-and-now context and imagine possible futures (Valsiner 2007, p. 33). This enables us to choose and act as responsible persons. And, as I argued above, such semiotic mediation is a normative process that is constrained by the grammars of sociocultural meaning systems.

Humans are therefore social in a deeper sense than other animals. Many other animals live in flocks and some have division of labour (such as ants and bees). Some even have culture in the sense that they can transmit information across generations that is not hardwired genetically (e.g. some monkeys). But only humans are able to *negotiate* the norms that regulate the doings and sufferings of individuals and populations. Only humans seem capable of considering whether their current social practices are in fact just or unjust. Only humans can intentionally work to change the norms that regulate their social behaviours. When the alpha-male becomes too weak to uphold his dominant position in a group of apes, a new male will seek power, and the distribution of power thus changes among the individual apes. But what does significantly not happen is a change of the practice of dominance as such, and the apes do not suddenly introduce democratic politics into the group's life. The unique human capacity to negotiate the norms of social practices—and the institutionalized negotiations of norms we call democratic—is made possible by our reflective powers, which are in turn products of social relationships. This is why Aristotle could define the human being as the political

animal, which is not the same as the social animal. A social animal engages in behaviours that are possible because of the existence of other members of the species (that may perform other functions in the collective), but a political animal is one that is capable of something more, viz. evaluate and negotiate the norms that regulate its actions.

I argued above that the mind is normative, and the reason why we need to transcend individual brains and bodies to understand the skills and dispositions that constitute the individual mind is because normativity is inherently social and political (in the sense outlined above). We need *social* practices in order to have norms, for, as Wittgenstein (1953) demonstrated with his argument against the possibility of a private language, we need public criteria in order to be able to distinguish correctness from incorrectness and thus to have norms. The most fruitful way of understanding this public and social constitution of norms is to say that they (norms) are embedded in social practices. A social practice can be defined as "any stable configuration of shared activity, whose shape is defined by a certain pattern of dos and don'ts" (Taylor 1989, p. 204). The normativity of practices has also been stressed in Alasdair MacIntyre's influential *After Virtue*, which can be considered a foundational work in sociocultural moral philosophy. MacIntyre defined a practice as:

> any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended. (MacIntyre 1985, p. 187).

What he means is that we can only identify something as a social practice—and consequently as a human action—when we understand those values ("internal goods") that define the practice as such. Normativity here goes all the way through human sociocultural activities in a strong sense. It is in relation to the norms of our practices—what Harré (1983) calls a "local moral order"—that we learn to speak, to reflect, to act, to remember, to feel emotions, to discipline our bodies and exercise all the other skills that make up the mind. Without these norms and practices, there could be no acting persons to understand through the Person grammar, for acts are only acts relative to the norms of a practice. In this way, social practices are necessary mediators of human mental life.

Technological Artefacts as Mediators

We now come to the outermost layer of the model in Fig. 1. This is the layer of things and technologies. It is obvious that humans use things for a number of purposes, but why is it necessary to make this explicit in a hybrid psychology and give it its own layer in the model? The reason is that just as "the mind" is not an autonomous entity or substance that can be understood in abstraction from its enabling materialities and relationships, so "the social" is also not some substance that floats freely around and constructs human activities. The conception of the

social as some "stuff" has recently been criticized by Bruno Latour (2005). He argues that the widespread tendency in the social sciences to explain processes with reference to such notions as "the social" or "the context" are often simply vacuous. Such explanations take for granted that the social exists as a kind of material with causal power, which is really quite mystifying. Latour's point is not that we should discard the notion of the social completely, but rather that we should understand that what we are used to address as "the social" (e.g. in social psychology and sociology) consists of associations that are kept together only because of material artefacts and technologies. If this is true, it means that the norms and social practices that were emphasized in the previous section only work if they are "kept together" materially or technologically.

Again, in order to understand this argument, it is relevant to look at human societies in contrast to groups of apes. Latour (1996) defines social life as that form of life that exists when an individual agent can only reach her goals through interaction with other agents. This definition definitely includes many other animals, including apes, among the social species. But there are rather clear limits to the complexity of the social life of a group of apes. The reason is that the ape world is upheld almost completely by constant interactions between the individual group members. Apes need constant contact with one another in concrete chains of interaction in order to uphold a social order. They observe, hear and touch each other in order for a temporary "social structure" to emerge, characterized as it is by dominance struggles and care for the offspring. In contrast, human societies are organized and stabilized by an enormous number of technologies, which means that human sociality is immensely more complex than that of the apes. Latour argues that theories that do not take these technologies into account, such as some forms of social constructionism and ethnomethodology that only analyze symbolic exchanges, are really only adequate for understanding ape life and its face-to-face interaction, but fail to grasp the technologically mediated lives of humans. Almost all forms of human interaction involve technologies and artefacts. We can "uphold" relations between us, so to speak, without close interactions, because we have buildings, institutions, infrastructure, databases, parliaments and numerous other things. Traffic, to take an obvious example, is only possible because of the existence of roads, cars, trains, etc. and Latour's point is that these things are not just means that we use to realize our intentions to move around, but, as mediators, they actively shape the intentions we have. I can only have the intention of finishing this paper because of the existence of such technological and material mediators as computers, alphabets, scholarly networks of publication channels and readers and many other things. The controversial aspect of Latour's approach (the Actor-Network-Theory or ANT) is his insistence that things are actants that *do* things rather than merely being instrumental for human purposes. For example, a speed bump, to stay with the traffic example, is in Latour's eyes a thing that acts on us when we meet it, making us slow down. My view is that we can learn much from Latour's analyses of things as mediators without accepting his view that things act (at least in the full sense), for, as I argued above, we must reserve the Person grammar to persons and be careful not to extend it to brains, minds or things.

In addition to the "social technologies" that Latour is interested in, which stabilize social life, we have already encountered the view above that "cognitive technologies" are important as mediators of the mind (Clark 2008), something that is also foundational in sociocultural psychology (e.g. Cole 1996). A third class of technological mediators must also be mentioned briefly, viz. technologies of the self, which have been studied by a completely different group of philosophers and social scientists, who have followed in the footsteps of Michel Foucault. Foucault had from early on in his career uncovered how external power techniques, embedded in discourses, institutions and architecture, regulated human beings and disciplined their bodies, but, in the final books and articles he wrote before his death in 1984, his interests shifted from such external power techniques to what he called technologies for individual domination (Foucault 1988). He became interested in "the history of how an individual acts upon himself, in the technology of self" (p. 19). Technologies of the self are tools with which an individual acts on herself to create, recreate and cultivate herself as a subject. Through his historical investigations, Foucault succeeded in locating different kinds of technologies of the self such as the Stoic practice of letter writing, Augustine's confessions, examinations, asceticism and interpretations of dreams.

I believe technologies of the self are a very important subject matter for an integrative hybrid psychology, not least because there seems to be an emancipatory potential here, at least according to Foucault's analysis. For contra historical materialists, he argued that technologies of the self are relatively independent of their socio-economic and political conditions. Technologies of the self are not outside power relations, and the later Foucault still conceived of subjectivity as an effect of power relations produced in concrete practices, but individuals were now understood as being able to determine, to some extent, which practices they will allow themselves to be constituted by. Persons can use technologies of the self as cultural resources to acquire specific skills and forms of understanding. Through technologies of the self, we can use the productive nature of power to shape our selves, which is what Foucault called freedom. This is close to the Hegelian view that I outlined above (as reflective selves, we have some power to regulate *how* we relate to the world and ourselves), and although Foucault was very far from being a Hegelian, he famously said that "our anti-Hegelianism is possibly one of his [Hegel's] tricks directed against us, at the end of which he stands, motionless, waiting for us." (Foucault 1972, p. 235; my addition). And with his analysis of freedom as something practical and "technological", as a mediated and reflective relation subjects can have to themselves, Foucault in fact came close to Hegel's position that freedom arises in the reflective moments of self-consciousness, mediated of course by the concrete social world. Foucault, on his side, thus supplemented Hegel's abstract analysis with concrete analyses of particular social *and* technological mediators that humans use to create themselves as subjects. What cultural psychologists now refer to as "symbolic resources" such as literature, films and music (Zittoun 2007) can also be seen as close to technologies of the self due to their subjectivity constituting aspects, although symbolic resources are employed in forms of semiotic mediation rather than tool mediation (Gillespie and Zittoun 2010). Technologies of the self, being "technological", would represent a form of tool mediation, according to this distinction.

Concluding Methodological Comments

I have now gone through all layers of the integrative model of the mind as depicted in Fig. 1. I have only given short examples in each case of how to integrate the various theoretical perspectives that exist in the sciences of the brain, body, social practices and technologies. I have argued that we should understand the mind as a set of skills and dispositions, and this premise should lead us to posit the normative approaches to psychology as primary. But, following from Harré's hybrid psychology, we should remain open to the fact that there are material mediators of the mind, notably the brain, whose workings must be described in causal terms. I have also argued that we should expand Harré's hybrid science to include the body (and its habits), the social practices (and its norms) and technologies (and their stabilizing functions) in order for us to gain a full understanding of the mind. All of these layers are necessary, and together they are sufficient, as sources of mediators that constitute our human minds.

One drawback associated with modelling the layers of mediators, as I have done, is that such spatial models are good at depicting stabilized entities, but less good at depicting change and processes. And, obviously, the whole thing should be seen as a process. The skills and dispositions of the mind are constantly in the making, so to speak, and the different sources of mediators are in a kind of flux that is betrayed by the nice and orderly circles of the model. The model should thus be taken in a heuristic sense rather than as a permanent "map" of the mind. Clearly, innovation and change constantly takes place in all layers, leading to the development (or disintegration) of new skills. Sometimes the introduction of new tools and technologies, for example the alphabet, clearly have implications for most if not all other layers, leading to new skills like reading and writing, but also new brain dysfunctions (e.g. dyslexia), new ways of regulating bodies and new social practices. But change and development may originate from any layer, and there is no a priori way of determining the direction of influence. That is why we need empirical research. Once the baby bottle was invented, it paved the way for new relationships between the sexes, and fathers and mothers could acquire new skills and intentions, but there are also sometimes changes in social practices and gender roles that lead to a need for technological development. So far, humans have only been able to affect the central mediator of the brain in indirect ways, for example through educational practices, but they may in the future become able to fine-tune the brain tool through different forms of pharmacology and other biomedical interventions (see Rose 2007), which, again, may affect their skills, social practices etc.

These examples should remind us of the dynamic, changing and historical aspects of mental life, which lead to some final methodological considerations. How can we use the integrative hybrid psychology in empirical work? A genuinely integrative hybrid science of the mind should begin by describing what acting human persons do within their normative, moral orders (using the normative Person grammar), and should then proceed to study the enabling conditions that are found in the four layers of the model, including the historical emergence of these conditions. This is a descriptive and explanatory research strategy, which is suitable for many purposes, but there is also what we may call the generative research strategy, which purposefully introduces novel mediators into some psychological process and

closely observes how skills and dispositions develop in response. Evidently, this way of working has strong foundations in the tradition that goes back to Vygotsky, and the proposed hybrid psychology will take an interest in how a change in one form of mediation affects the others.

We do not always need to include all layers in empirical work, but we should at least be careful not to analyse our human and social worlds in ways that exclude, *prima facie*, insights that may come from disciplines that focus on the other layers. We should be open to almost anything, and the best way of proceeding is in my view by acquiring the habit of posing the transcendental (Kantian) question: How is something possible? Persons act; they raise their children, build complex organizations, wage war and write poetry. How is this possible? Regardless of the phenomenon of the human world that one is interested in, it is fruitful to begin where the action is and then inquire into its conditions of possibility. The model in Fig. 1 can be used as a heuristic device to give researchers some ideas about where to look for empirical answers. What is the case about brains, bodies, social practices and technologies that enables this tiny bit of the historical process to exist and unfold? One should pursue this empirical question with an open mind, i.e. without deciding a priori on the origins of the driving forces.

This way of working is close to that advocated by Latour (2005) and other actor-network theorists who want to "follow the actor" wherever it takes them. But there is a difference in that the hybrid psychologist remains committed to begin with the Person grammar, i.e. with someone acting, thinking, feeling—with persons who do something as part of social practice. The hybrid psychologist, thus, is still a humanist (rather than a post-humanist), working from the perspective of acting persons, but she is the sort of humanist who knows that there are enabling conditions of humanity, a range of mediators, which we not always think of as relevant to the human issues that interest us, but which we should learn to address more thoroughly. The hybrid psychologists knows that we must use what has come to be known as qualitative methods in order to describe, analyse, and understand what persons say and do as a necessary first step. The "first psychology" is thus unavoidably qualitative, because we need to understand meanings before other methods can be used (Harré 2004). But a strong antagonism between qualitative and quantitative approaches to psychology is false, since it will often be relevant to study the workings of the mediators causally, using quantifiable measures.

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