

Review of The New Science of the Mind by Marc Rowlands (2013)

Michael Starks

ABSTRACT

Before remarking on "The New Science of the Mind", I first offer some comments on philosophy and its relationship to contemporary psychological research as exemplified in the works of Searle (S), Wittgenstein (W), Hacker (H) et al. It will help to see my reviews of PNC (Philosophy in a New Century), TLP, PI, OC, Making the Social World (MSW) and other books by and about these geniuses, who provide a clear description of higher order behavior, not found in psychology nor philosophy, that I will refer to as the WS framework.

As with so many philosophy books, we might stop with the title. As the quotes and comments above and in my other reviews and the books they cover indicate, there are compelling reasons for regarding the problems we face in describing the psychology of higher order thought as conceptual and not scientific. This ought to be crystal clear to all, but science envy and almost complete oblivion to WSH etc. is a la mode! But as H notes above, the issues discussed here are all about language games and have nothing to do with science. In fact, as usual, if one translates into plain English there is very little of interest here, and certainly nothing not said before and better by WS etc. countless times since the 30's (see e.g., The Blue and Brown Books from 1933-35). It is not surprising that he makes no significant references to any of the above books or persons (the only reference to S is an article from 1958!), though in my view they are at the top of the list of the major figures in descriptive psychology.

On p119 he tells us that the key to all this is to figure out how "...a personal level cognitive process can belong to a representational subject. This is the task of the second half of the book." But W did this 80 years ago and since we have the beautifully clear explanations of WSH, H&M etc., there is no point to torturing oneself with the rather aimless and opaque prose that veers off at the end into Sartre, Heidegger, Husserl, and Frege, with a dash of postmodernist word salad for good measure. A valiant effort on an interesting topic, but ultimately exhausting and fruitless.

Those wishing a comprehensive up to date framework for human behavior from the modern two systems view may consult my article The Logical Structure of Philosophy, Psychology, Mind and Language as Revealed in Wittgenstein and Searle 59p(2016). For all my articles on Wittgenstein and Searle see my e-book 'The Logical Structure of Philosophy, Psychology, Mind and Language in Wittgenstein and Searle 367p (2016). Those interested in all my writings in their most recent versions may consult my e-book Philosophy, Human Nature and the Collapse of Civilization - Articles and Reviews 2006-2016 662p (2016).

"The confusion and barrenness of psychology is not to be explained by calling it a "young science"; its state is not comparable with that of physics, for instance, in its beginnings. (Rather with that of certain branches of mathematics. Set theory.) For in psychology there are experimental methods and conceptual confusion. (As in the other case, conceptual confusion and methods of proof). The existence of the experimental method makes us think we have the means of solving the problems that trouble us; though problem and method pass one another by." Wittgenstein (PI p.232)

"Philosophers constantly see the method of science before their eyes and are irresistibly tempted to ask and answer questions in the way science does. This tendency is the real source of metaphysics and leads the philosopher into complete darkness."(Blue Book p18, 1933).

"But I did not get my picture of the world by satisfying myself of its correctness: nor do I have it because I am satisfied of its correctness. No: it is the inherited background against which I distinguish between true and false." Wittgenstein OC 94

"Now if it is not the causal connections which we are concerned with, then the activities of the mind lie open before us." Wittgenstein "The Blue Book" p6 (1933)

"The aim of philosophy is to erect a wall at the point where language stops anyway." Wittgenstein Philosophical Occasions p187

"The limit of language is shown by its being impossible to describe a fact which corresponds to (is the translation of) a sentence without simply repeating the sentence ..." Wittgenstein CV p10 (1931)

"Some of the most important logical features of intentionality are beyond the reach of phenomenology because they have no immediate phenomenological reality... Because the creation of meaningfulness out of meaninglessness is not consciously experienced...it does not exist...This is... the phenomenological illusion." Searle PNC p115-117

"...the basic intentional relation between the mind and the world has to do with conditions of satisfaction. And a proposition is anything at all that can stand in an intentional relation to the world, and since those intentional relations always determine conditions of satisfaction, and a proposition is defined as anything sufficient to determine conditions of satisfaction, it turns out that all intentionality is a matter of propositions." Searle PNC p193

"But you cannot explain a physical system such as a typewriter or a brain by identifying a pattern which it shares with its computational simulation, because the existence of the pattern does not explain how the system actually works as a physical system. ...In sum, the fact that the attribution of syntax identifies no further causal powers is fatal to the claim that programs provide causal explanations of cognition... There is just a physical mechanism, the brain, with its various real physical and physical/mental causal levels of description." Searle Philosophy in a New Century(PNC) p101-103

"In short, the sense of 'information processing' that is used in cognitive science is at much too high a level of abstraction to capture the concrete biological reality of intrinsic intentionality...We are blinded to this difference by the fact that the same sentence 'I see a car coming toward me,' can be used to record both the visual intentionality and the output of the computational model of vision...in the sense of 'information' used in cognitive science, it is simply false to say that the brain is an information processing device." Searle PNC p104-105

"The intentional state represents its conditions of satisfaction...people erroneously suppose that every mental representation must be consciously thought...but the notion of a representation as I am using it is a functional and not an ontological notion. Anything that has conditions of satisfaction, that can succeed or fail in a way that is characteristic of intentionality, is by definition a representation of its conditions of satisfaction...we can analyze the structure of the intentionality of social phenomena by analyzing their conditions of satisfaction." Searle MSW p28-32

"Here we come up against a remarkable and characteristic phenomenon in philosophical investigation: the difficulty---I might say---is not that of finding the solution but rather that of recognizing as the solution something that looks as if it were only a preliminary to it. We have already said everything.---Not anything that follows from this, no this itself is the solution!...This is connected, I believe, with our wrongly expecting an explanation, whereas the solution of the difficulty is a description, if we give it the right place in our considerations. If we dwell

upon it, and do not try to get beyond it." Zettel p312-314

These quotes are not chosen at random but (along with the others in my reviews) are an outline of behavior (human nature) from our two greatest descriptive psychologists. In considering these matters we must keep in mind that philosophy is descriptive psychology.

Before remarking on "The New Science of the Mind", I will first offer some comments on philosophy and its relationship to contemporary psychological research as exemplified in the works of Searle (S), Wittgenstein (W), Hacker (H) et al. It will help to see my reviews of PNC (Philosophy in a New Century), TLP, PI, OC, Making the Social World (MSW) and other books by and about these geniuses, who provide a clear description of higher order behavior, not found in psychology books, that I will refer to as the WS framework. To serve as an heuristic framework I have generated a table which is very useful but no room here (see other reviews such as that of Shoemaker's Physical Realization).

Here is how the leading Wittgenstein scholar summarized his work: "Wittgenstein resolved many of the deep problems that have dogged our subject for centuries, sometimes indeed for more than two millennia, problems about the nature of linguistic representation, about the relationship between thought and language, about solipsism and idealism, self-knowledge and knowledge of other minds, and about the nature of necessary truth and of mathematical propositions. He ploughed up the soil of European philosophy of logic and language. He gave us a novel and immensely fruitful array of insights into philosophy of psychology. He attempted to overturn centuries of reflection on the nature of mathematics and mathematical truth. He undermined foundationalist epistemology. And he bequeathed us a vision of philosophy as a contribution not to human knowledge, but to human understanding – understanding of the forms of our thought and of the conceptual confusions into which we are liable to fall."—Peter Hacker--'Gordon Baker's late interpretation of Wittgenstein'

To this I would add that W was the first to clearly and extensively describe the two systems of thought--fast automatic prelinguistic S1 and the slow reflective linguistic dispositional S2. He explained how behavior only is possible with a vast inherited background that is the axiomatic basis for judging and cannot be doubted or judged, so will (choice), consciousness self, time and space are innate true-only axioms. He noted in thousands of pages and hundreds of examples how our inner mental experiences are not directly describable in language, this being possible only with terms that substitute for public behavior (the impossibility of private language). He invented truth tables and predicted the utility of paraconsistent logic. He patented helicopter designs which anticipated by three decades the use of blade-tip jets to drive the rotors and which had the seeds of the centrifugal-flow gas turbine engine, designed a heart-beat monitor, designed and supervised the building of a modernist house, and sketched a proof of Euler's Theorem, subsequently completed by others. He can be viewed as the first evolutionary psychologist since he constantly explained the necessity of the innate background and demonstrated how it generates behavior. He described the psychology behind the Wason test--a fundamental measure used in EP decades later. He noted the indeterminate nature of language and the game-like nature of social interaction. He described and refuted the notions of the mind as machine and the computational theory of mind, long before practical computers. He decisively laid to rest skepticism and metaphysics. He showed that, far from being inscrutable, the activities of the mind lie open before us, a lesson few have learned since.

In addition to failing to make it clear that what they are doing is descriptive psychology, philosophers rarely specify exactly what it is that they expect to contribute to this topic that other students of behavior (i.e., *scientists*) do not, so after noting W's above remark on science envy, I will quote again from Hacker who gives a good start on it.

“Traditional epistemologists want to know whether knowledge is true belief and a further condition ..., or whether knowledge does not even imply belief ... We want to know when knowledge does and when it does not require justification. We need to be clear what is ascribed to a person when it is said that he knows something. Is it a distinctive mental state, an achievement, a performance, a disposition or an ability? Could knowing or believing that p be identical with a state of the brain? Why can one say ‘he believes that p , but it is not the case that p ’, whereas one cannot say ‘I believe that p , but it is not the case that p ’? Why are there ways, methods and means of achieving, attaining or receiving knowledge, but not belief (as opposed to faith)? Why can one know, but not believe who, what, which, when, whether and how? Why can one believe, but not know, wholeheartedly, passionately, hesitantly, foolishly, thoughtlessly, fanatically, dogmatically or reasonably? Why can one know, but not believe, something perfectly well, thoroughly or in detail? And so on – through many hundreds of similar questions pertaining not only to knowledge and belief, but also to doubt, certainty, remembering, forgetting, observing, noticing, recognising, attending, being aware of, being conscious of, not to mention the numerous verbs of perception and their cognates. What needs to be clarified if these questions are to be answered is *the web of our epistemic concepts*, the ways in which the various concepts hang together, the various forms of their compatibilities and incompatibilities, their point and purpose, their presuppositions and different forms of context dependency. To this venerable exercise in connective analysis, scientific knowledge, psychology, neuroscience and self-styled cognitive science can contribute nothing whatsoever.” (Passing by the naturalistic turn: on Quine’s *cul-de-sac*- p15-2005)

A major theme in all discussion of human behavior is the need to separate the genetically programmed automatisms from the effects of culture. All study of higher order behavior is an effort to tease apart not only fast S1 and slow S2 thinking (e.g., perceptions and other automatisms vs. dispositions or abilities to act), but the logical extensions of S2 into culture (S3).

Searle's work as a whole provides a stunning description of higher order S2/S3 social behavior due to the recent evolution of genes for dispositional psychology, while the later W shows how it is based on true-only unconscious axioms of S1 which evolved into conscious dispositional propositional thinking of S2.

S1 is the simple automated functions of our involuntary, System 1, fast thinking, mirror neuron, true-only, non-propositional, prelinguistic mental states- our perceptions and memories and reflexive acts including System 1 Truths and UA1 --Understanding of Agency 1-- and Emotions1- such as joy, love, anger) which can be described causally, while the evolutionarily later linguistic functions are expressions or descriptions of voluntary, System 2, slow thinking, mentalizing neurons. That is, of testable true or false, propositional, Truth2 and UA2 and Emotions2 (joyfulness, loving, hating)-- the dispositional (and often counterfactual) imagining, supposing, intending, thinking, knowing, believing, etc. which can only be described in terms of reasons (i.e., it's just a fact that attempts to describe System 2 in terms of neurochemistry, atomic physics, mathematics, make no sense--see W, S, Hacker etc.).

Disposition words have at least two basic uses. One is a peculiar philosophical use (but graduating into everyday uses) which refers to the true-only sentences resulting from direct perceptions and memory, i.e., our innate axiomatic S1 psychology ('I know these are my hands')--i.e., they are Causally Self Referential (CSR), and the S2 use, which is their normal use as dispositions, which can be acted out, and which can become true or false ('I know my way home')--i.e., they have Conditions of Satisfaction (COS) and are not CSR.

The investigation of System 1 has revolutionized psychology, economics and other disciplines under names like "cognitive illusions", "priming", "framing", "heuristics" and "biases". Of course these too are language games so there will be more and less useful ways to use these words, and studies and discussions will vary from "pure" System 1 to combinations of 1 and 2 (the norm as W made clear), but not of S2 only, since it cannot occur without involving much of the intricate S1 network of "cognitive modules", "inference engines", "intracerebral reflexes", "automatizations", "cognitive axioms", "background" or "bedrock" --as W and later S call our Evolutionary Psychology (EP).

The deontic structures or 'social glue' are the automatic fast actions of S1 producing the slow dispositions of S2

which are inexorably expanded during personal development into a wide array of automatic universal cultural deontic relationships (S3). I expect this fairly well describes the basic structure of behavior.

So, recognizing that S1 is only upwardly causal (world to mind) and contentless (lacking representations or information) while S2 has content and is downwardly causal (mind to world) (e.g., see my review of Hutto and Myin's 'Radical Enactivism'), I would change the paragraphs from S's MSW p39 beginning "In sum" and ending on pg 40 with "conditions of satisfaction" as follows.

In sum, perception, memory and reflexive prior intentions and actions ('will') are caused by the automatic functioning of our S1 true-only axiomatic EP as modified by S2 ('free will'). We try to match how we desire things to be with how we think they are. We should see that belief, desire (and imagination--desires time shifted and decoupled from intention) and other S2 propositional dispositions of our slow thinking later evolved second self, are totally dependent upon (have their COS originating in) the CSR rapid automatic primitive true- only reflexive S1. In language and neurophysiology there are intermediate or blended cases such as intending (prior intentions) or remembering, where the causal connection of the COS with S1 is time shifted, as they represent the past or the future, unlike S1 which is always in the present. S1 and S2 feed into each other and are often orchestrated seamlessly by the learned deontic cultural relations of S3, so that our normal experience is that we consciously control everything that we do. This vast arena of cognitive illusions that dominate our life Searle has described as 'The Phenomenological Illusion' (TPI).

It follows both from W's 3rd period work contemporary psychology, that 'will', 'self' and 'consciousness' are axiomatic true-only elements of S1 composed of perceptions and reflexes., and there is no possibility (intelligibility) of demonstrating (of giving sense to) their falsehood. As W made so wonderfully clear numerous times, they are the basis for judgment and so cannot be judged. The true-only axioms of our psychology are not evidential.

Like Carruthers and others, S sometimes states (e.g., p66-67 MSW) that S1 (i.e., memories, perceptions, reflex acts) has a propositional (i.e., true-false) structure. As I have noted above, and many times in other reviews, it seems crystal clear that W is correct, and it is basic to understanding behavior, that only S2 is propositional and S1 is axiomatic and true-only. They both have COS and Directions of Fit (DOF) because the genetic, axiomatic intentionality of S1 generates that of S2 but if S1 were propositional in the same sense it would mean that skepticism is intelligible, the chaos that was philosophy before W would return, and in fact if true, life would not be possible. As W showed countless times and biology demonstrates, life must be based on certainty--automated unconscious rapid reactions. Organisms that always have a doubt and pause to reflect will die--no evolution, no people, no philosophy.

I would translate S's summary of practical reason on p127 of MSW as follows: "We yield to our desires (need to alter brain chemistry), which typically include Desire -Independent Reasons for Action (DIRA--i.e., desires displaced in space and time), which produce dispositions to behavior that commonly result sooner or later in muscle movements that serve our inclusive fitness (increased survival for genes in ourselves and those closely related)." And I would restate his description on p129 of how we carry out DIRA2/3 as "The resolution of the paradox is that the unconscious DIRA1 serving long term inclusive fitness generate the conscious DIRA2 which often override the short term personal immediate desires." Agents do indeed consciously create the proximate reasons of DIRA2/3, but these are very restricted extensions of unconscious DIRA1 (the ultimate cause). Obama and the Pope wish to help the poor because it is right but the ultimate cause is a change in their brain chemistry that increased the inclusive fitness of their distant ancestors.

Evolution by inclusive fitness has programmed the unconscious rapid reflexive causal actions of S1 which often give

rise to the conscious slow thinking of S2 (often modified into the cultural extensions of S3), which produces reasons for action that often result in activation of body and/or speech muscles by S1 causing actions. The general mechanism is via both neurotransmission and by changes in neuromodulators in targeted areas of the brain. The overall cognitive illusion (called by S 'The Phenomenological Illusion', by Pinker 'The Blank Slate' and by Tooby and Cosmides 'The Standard Social Science Model') is that S2/S3 has generated the action consciously for reasons of which we are fully aware and in control of, but anyone familiar with modern biology and psychology can see that this view is not credible.

A sentence expresses a thought (has a meaning), when it has clear COS, i.e., public truth conditions. Hence the comment from W: "When I think in language, there aren't 'meanings' going through my mind in addition to the verbal expressions: the language is itself the vehicle of thought." And, if I think with or without words, the thought is whatever I (honestly) say it is as there is no other possible criterion (COS). Thus W's lovely aphorisms (p132 Budd) "It is in language that wish and fulfillment meet" and "Like everything metaphysical, the harmony between thought and reality is to be found in the grammar of the language." And one might note here that 'grammar' in W can usually be translated as 'EP' and that in spite of his frequent warnings against theorizing and generalizing, this is about as broad a characterization of higher order descriptive psychology as one can find.

Though W is correct that there is no mental state that constitutes meaning, S notes that there is a general way to characterize the act of meaning-- "Speaker meaning... is the imposition of conditions of satisfaction on conditions of satisfaction" which means to speak or write a well formed sentence in a context that can be true or false and this is an act and not a mental state. Hence the famous quote from W: "If God had looked into our minds he would not have been able to see there whom we were speaking of (PI p217)" and his comments that the whole problem of representation is contained in "that's Him" and "...what gives the image its interpretation is the path on which it lies," or as S says its COS. Hence W's summation (p140 Budd) that "What it always comes to in the end is that without any further meaning, he calls what happened the wish that that should happen"..." the question whether I know what I wish before my wish is fulfilled cannot arise at all. And the fact that some event stops my wishing does not mean that it fulfills it. Perhaps I should not have been satisfied if my wish had been satisfied"...Suppose it were asked 'Do I know what I long for before I get it? If I have learned to talk, then I do know."

Disposition words refer to Potential Events which I accept as fulfilling the COS and my mental states, emotions, change of interest etc. have no bearing on the way dispositions function. I am hoping, wishing, expecting, thinking, intending, desiring etc. depending on the state I take myself to be in-- on the COS that I express and which can only be expressed by reflexive S1 muscle contractions, especially those of speech.

This is another statement of W's argument against private language. Likewise with rule following and interpretation --they can only be publicly checkable acts. And one must note that many (most famously Kripke) miss the boat here, being misled by W's frequent referrals to community practice into thinking it's just arbitrary public practice that underlies language and social conventions. W makes clear many times that such conventions are only possible given an innate shared axiomatic psychology which he often calls the background.

W's definitive arguments against introspection and private language are as clear as day—we must have a test to differentiate between A and B and tests can only be public. He famously illustrated this with the 'Beetle in the Box'. I have explained the functioning of dispositional language ('propositional attitudes') and W's dismantling of the notion of introspection above and in my reviews of Budd, Johnston and several of S's books. Basically he showed that the causal relation and word and object model that works for S1 does not apply to S2.

W famously rejected behaviorism and much of his work is devoted to describing why it cannot serve as a description of behavior. "Are you not really a behaviourist in disguise? Aren't you at bottom really saying that everything except human behavior is a fiction? If I do speak of a fiction, then it is of a *grammatical* fiction." (PI p307) But *real* behaviorism is rampant in its modern 'functionalist', 'computationalist', 'dynamic systems' forms. See my review of Carruther's 'The Opacity of Mind' for a recent egregious example.

Behaviorism etc. have no practical impact. Unlike other cartoon views of life, they are too cerebral and esoteric to be grasped by more than a tiny fringe and it is so unrealistic that even its adherents totally ignore it in their everyday life. Unfortunately not so with other cartoon theories like SSSM, BS and TPI, widely shared by religions, governments, sociology, anthropology, pop psychology, history, literature, and mom and dad, in spite of well known facts, such as that personalities of adults adopted as children are as different from those of their adoptive siblings and parents as people chosen randomly off the street. Religions big and small, political movements, and economics often generate or embrace already existing cartoons that ignore physics and biology (human nature), posit forces terrestrial or cosmic that reinforce our superstitions, wishful thinking and selfishness and help to accelerate the destruction of the earth (the real purpose of nearly every social practice). The point is to realize that these fantasies are on a continuum and have the same source. All of us are born with a cartoon view of life and few ever grow out of it. But the world is not a cartoon, so a great tragedy is being played out as the cartoons collide with reality.

In spite of the fact that most of the above has been known to many for decades (and even $\frac{3}{4}$ of a century in the case of some of W's teachings), I have never seen anything approaching an adequate discussion in behavioral science texts and commonly there is barely a mention.

Now for some comments on "The New Science of the Mind" (NSM).

As with so many philosophy books, we might stop with the title. As the quotes and comments above and in my other reviews and the books they cover indicate, there are compelling reasons for regarding the problems we face in describing the psychology of higher order thought as conceptual and not scientific. This ought to be crystal clear to all, but science envy and almost complete oblivion to WSH etc. is a la mode! But as H notes above, the issues discussed here are all about language games and have nothing to do with science. In fact, as usual, if one translates into plain English there is very little of interest here, and certainly nothing not said before and better by WS etc. countless times since the 30's (see e.g., The Blue and Brown Books from 1933-35—if you don't see the connection with all this try harder). It is not surprising that he makes no significant references to any of the above books or persons (the only reference to S is an article from 1958!), though in my view they are at the top of the list of the major figures in descriptive psychology.

Rowland wants to discern the precise roles of the 4 E 'aspects' of mind (Enactive, Embodied, Embedded, Extended see p3) with the aim to show that he can combine the Extended and Embodied into the Amalgamated to yield a clear theory of mind. Recall that W insisted that the activities of the mind lie open before us and theories or theses must be replaced by descriptions.

Some sections of the book are reasonably successful at describing the nonsense that passes as philosophy of mind but there is much aimless wandering and many mistakes and confusions, all couched in infelicitous jargon. This will hopefully be obvious to those who read the above and my other reviews as I cannot record more than a few of the comments I made in my two readings of this book. Major flaws, common to most writing in the behavioral sciences, are the lack of awareness of the S1/S2 two selves mode of describing personality that W pioneered (though nobody has noticed), the partial(or perhaps complete) embracing of the mechanical view of mind, and a failure to be clear about nature/nuture issues which the 4 E's seem eager to fuse. The fast automatic perceptions,

'rules' and behaviors of S1 are mushed together with the slow conscious dispositional thinking, believing and rule following of S2 and neither are clearly or consistently distinguished from the arbitrary cultural behaviors of S3. Thus he is severely limited by failing to note clearly the difference between the automatic unconscious 'rules' of S1 perception and reflexive actions and the deliberate conscious 'rules' of S2 thinking and understanding, both innate, and the arbitrary learned S3 rules that constitute the cultural veneer on behavior. S2 rule following is just dispositional behavior of understanding propositions with COS. He says things somewhat like this (e.g., see p116, but not in clear and consistent terms and I doubt many will be able to wade thru it with any good results.

It fails anywhere to make it clear that thinking, believing etc. are dispositions, hence propositional and true or false S2 functions and, like all dispositions, have clear meaning due to their *public outer* Conditions of Satisfaction and not to any *private internal* phenomena. This is another demonstration of the impossibility of private language and introspection and contrary to its supposed complexity, it is a simple fact that there can be no such thing as a private test to determine the truth of any statement. This is the major topic of the fine books by Budd and Johnston—the Inner phenomena that we experience vs the Outer behavior that constitutes language and social interaction. That is why this can be seen as a poor man's version of W's Inner and Outer watered down and smothered in jargon. If one thinks that where there's smoke, there's fire, then please see Hutto and Myin's book for a razor sharp account of the 4 E's but someone who understands the critical need to differentiate the various LG's of 'information', 'representation', 'content' etc. and why none of these can be part of S1. Yes the brain can only express itself via the muscles of mouth, arms and legs and yes it is thus unavoidable that S2 dispositions can only be manifested in public acts like speech and movement—that is, in the WS framework they have Conditions of Satisfaction (COS). "I am driving to Ohio" has to be said and heard and yes it needs a car, a road and the cognitive act of driving and if you like you can call these these external embodiments, enactive, embedded or extended aspects of mind, but exactly what is achieved? It is the most trivial of truisms that our mind needs a brain and the brain a body and the body a world but what is useful about including the car, the gas, the engine, the road and Ohio as part of cognition? Yes in some sense they are all signs or creations of intentionality since created by us, but how about the trees, birds and clouds? Only theists could be happy with that. We inherit our genes, biochemistry, physiology, anatomy and abilities (e.g., dispositions such as thinking) but not the car in any useful sense and certainly not the clouds, and isn't this the crucial thing? The 4 E's and Rowlands' Amalgamated Mind seem to want to fuse dispositions with intentions and actions and results and the world (see p127-129) and look a lot like back door attempts to merge nature and nurture, a return to blank slateism and TPI. Not a happy ending.

W destroyed the mechanical or reductionist, computationalist, behaviorist, functionalist, Strong AI view of mind (yes they seem to be different, but the mistakes are pretty much the same) and for those who didn't get it, S, H and many others carried on. Nevertheless, these incoherencies continue to dominate cognitive science and philosophy. Rowlands says he will mostly avoid functionalism, yet if he realized its bankruptcy why bring it up again and again, and he tells us p103 that the extended mind (one of the two pillars of his theory) is "predicated on a liberal conception of functionalism" and in detail on p100 and 104 how they go hand in hand.

Rowlands' discussion of cognitive bloat (p128 etc.) makes reference to S's "underived" content but his only ref to S's work is over 50 years old. Since then S has called this "intrinsic intentionality" that includes all of S1 and S2 (i.e., all cognition) and which contrasts with "derived" or "ascribed" which is ascribed by us to machines and other artifacts and events and is of course NOT intentionality (cognition or psychology). In this sense animals have only intrinsic and not ascribed intentionality. But he seems to get this sense of derived mixed up with his sense in which it refers to the personal level S2, as opposed to the nonderived or subpersonal level S1 (see p117-19). If you want to be *really* serious about your laptop being asleep and awake, and the car and the road being part of the mind, then cognition will extend into the universe, at least when doing philosophy, but it will not in this sense (except

maybe in bizarre, rare, amusing or quite scary cases) enter into nor have any impact at all on *real life*. So for me the 4 E's as presented here are just more cartoon views of life.

In contrast, the almost mathematically precise Radical Enactivism of Hutto and Myin only insists on the fact that S1 blends into the world as our perceptions, memories and reflex actions are automatic, unconscious, prelinguistic, contentless, informationless and without representation. Only the slow, conscious S2 dispositions fed by S1 have information, content and representation (COS). If you insist to apply these terms to S1 as well then please differentiate I1,C1,R1, COS1 etc from I2, C2, R2, COS2 etc. for reasons I have mentioned above and in many other reviews.

On p119 he tells us that the key to all this is to figure out how "...a personal level cognitive process can belong to a representational subject. This is the task of the second half of the book." But W did this 80 years ago and since we have the beautifully clear explanations of WSH,H&M etc., there is no point to torturing oneself with the rather aimless and opaque prose that veers off at the end into Sartre, Heidegger, Husserl, and Frege, with a dash of postmodernist word salad for good measure.

A valiant effort on an interesting topic, but ultimately exhausting and fruitless.