

Another cartoon portrait of the mind from the reductionist metaphysicians--a Review of Peter Carruthers 'The Opacity of Mind' (2011)

ABSTRACT

Materialism, reductionism, behaviorism, functionalism, dynamic systems theory and computationalism are popular views, but they were shown by Wittgenstein to be incoherent. The study of behavior encompasses all of human life but behavior is largely automatic and unconscious and even the conscious part, mostly expressed in language (which Wittgenstein equates with the mind), is not perspicuous, so it is critical to have a framework which Searle calls the Logical Structure of Rationality (LSR) and I call the Descriptive Psychology of Higher Order Thought (DPHOT). After summarizing the framework worked out by Wittgenstein and Searle, as extended by modern reasoning research, I show the inadequacies in Carruthers's views, which pervade most discussions of behavior including contemporary behavioral sciences. I maintain that his book is an amalgam of two books, one a summary of cognitive psychology and the other a summary of the standard philosophical confusions on the mind with some new jargon added. I suggest that the latter should be regarded as incoherent or as a cartoon view of life and that taking Wittgenstein at his word, we can practice successful self therapy by regarding the mind/body issue as a language/body issue.

I will first offer some comments on philosophy and its relationship to contemporary psychological research as exemplified in the works of John Searle (S) and Ludwig Wittgenstein (W)(jointly WS) as I consider S the successor to W and one must study their work together. 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 two geniuses, who provide a clear description of behavior that I will refer to as the WS framework. Only given this framework, which Searle calls the Logical Structure of Rationality (LSR) and I call the Descriptive Psychology of Higher Order Thought (DPHOT), is it possible to have clear descriptions of behavior but it is entirely missing from nearly all discussions of behavior. Even in the works of WS it is not laid out clearly and in virtually all others it is only hinted at, with the usual disastrous consequences. I will begin with some quotes from W and S. These quotes are not chosen at random but result from a decade of study and together they are an outline of behavior (human nature) from our two greatest descriptive psychologists. If one understands them, they penetrate as deeply as it is possible to go into the mind (largely coextensive with language as W made clear) and provide as much guidance as one needs—it is then just a matter of looking at how language works in each case and by far the best place to find perspicuously analyzed examples of language is in the 20,000 pages of Wittgenstein's *Nachlass*.

"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 in the way science does. This tendency is the real source of metaphysics, and leads the philosopher into complete darkness." Wittgenstein *The Blue*

Book

"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

"The decisive movement in the conjuring trick has been made, and it was the very one we thought quite innocent." Wittgenstein, PI para.308

" 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)

"Nonsense, Nonsense, because you are making assumptions instead of simply describing. If your head is haunted by explanations here, you are neglecting to remind yourself of the most important facts." Wittgenstein Z 220

"Philosophy simply puts everything before us and neither explains nor deduces anything...One might give the name `philosophy' to what is possible before all new discoveries and inventions." Wittgenstein PI 126

"What we are supplying are really remarks on the natural history of man, not curiosities; however, but rather observations on facts which no one has doubted and which have only gone unremarked because they are always before our eyes." Wittgenstein RFM I p142

"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 (this has to do with the Kantian solution to the problem of philosophy)." Wittgenstein CV p10 (1931)

"Can there be reasons for action which are binding on a rational agent just in virtue of the nature of the fact reported in the reason statement, and independently of the agent's desires, values, attitudes and evaluations?...The real paradox of the traditional discussion is that it tries to pose Hume's guillotine, the rigid fact-value distinction, in a vocabulary, the use of which already presupposes the falsity of the distinction." Searle PNC p165-171

"...all status functions and hence all of institutional reality, with the exception of language, are created by speech acts that have the logical form of Declarations...the forms of the status function in question are almost invariably matters of deontic powers...to recognize something as a right, duty, obligation, requirement and so on is to recognize a reason for action...these deontic structures make possible desire-independent reasons for action...The general point is very clear: the creation of the general field of desire-based reasons for action presupposed the acceptance of a system of desire-independent reasons for action." Searle PNC p34-49

"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

"So status functions are the glue that hold society together. They are created by collective intentionality and they function by carrying deontic powers...With the important exception of language itself, all of institutional reality and therefore in a sense all of human civilization is created by speech acts that have the logical form of Declarations...all of human institutional reality is created and maintained in existence by (representations that have the same logical form as) Status Function Declarations, including the cases that are not speech acts in the explicit form of Declarations." Searle MSW p11-13

"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

"Speaker meaning... is the imposition of conditions of satisfaction on conditions of satisfaction. The capacity to do this is a crucial element of human cognitive capacities. It requires the ability to think on two levels at once, in a way that is essential for the use of language. At one level, the speaker intentionally produces a physical utterance, but at another level the utterance represents something. And the same duality infects the symbol itself. At one level it is a physical object like any other. At another level it has a meaning: it represents a type of a state of affairs" MSW p74

"...once you have language, it is inevitable that you will have deontology because there is no way you can make explicit speech acts performed according to the conventions of a language without creating commitments. This is true not just for statements but for all speech acts" MSW p82

"The more narrowly we examine actual language, the sharper becomes the conflict between it and our requirement. (For the crystalline purity of logic was, of course, not a result of investigation: it was a requirement.)"PI 107

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), but the logical extensions of S2 into culture (S3).

Searle's (S) work as a whole provides a stunning description of higher order S2/S3 social behavior which is due to the recent evolution of genes for dispositional psychology, while the later Wittgenstein (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, 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, 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 for many examples and Searle and Hacker (Human Nature)for disquisitions).

One should take seriously W's comment that even if God could look into our mind he could not see what we are thinking--this should be the motto of Cognitive Psychology. Yes, a cognitive psychologist of the future *may* be able to see what we are perceiving and remembering and our reflexive thinking and acting, since these S1 functions are always causal mental states (CMS) but S2 dispositions are only potentially CMS and so not realized or visible. This is not a theory but description of our language, mind, life, grammar (W). S, Carruthers (C) and others muddy the waters here because they sometimes refer to dispositions as mental states as well, but as W did long ago, S, Hacker and others show that the language of causality just does not apply to the higher order emergent S2 descriptions--again not a theory but a description of how our dispositional states (language, thinking) work.

S1 is composed of unconscious, fast, physical, causal, automatic, non-propositional, true only mental states, while slow S2 can only coherently be described in terms of reasons for actions that are more or less conscious dispositions to behavior (potential actions) that are or can become propositional (T or F). It seems quite obvious to me (as it was to W) that the mechanical view of mind exists for the same reason as nearly all behavior--it is the default operation of our evolved psychology (EP) which seeks explanations in terms of what we can deliberately think through slowly (S2), rather than in the automated S1, of which we mostly remain oblivious--called by S in PNC 'The Phenomenological Illusion' (TPI). TPI is not a harmless philosophical error but a universal obliviousness to our biology which produces the illusion that we control our life and among the consequences are the inexorable collapse of

what passes for civilization.

Our slow or reflective, more or less "conscious" (beware another network of language games!) second-self brain activity corresponds to what W characterized as "dispositions" or "inclinations", which refer to abilities or possible actions, are not mental states (or not in the same sense as S1 states), and do not have any definite time of occurrence and/or duration. But disposition words like "knowing", "understanding", "thinking", "believing", which W discussed extensively, 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)—i.e., to see a cat makes it true and in the normal case no test is possible, 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 external, public, testable Conditions of Satisfaction (COS) and are not CSR.

The investigation of involuntary fast thinking 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 presumably not ever of slow System 2 dispositional thinking only, since any System 2 thought or intentional action cannot occur without involving much of the intricate network of "cognitive modules", "inference engines", "intracerebral reflexes", "automatizations", "cognitive axioms", "background" or "bedrock" --as W and later Searle call our Evolutionary Psychology (EP).

One way of regarding this is that the unconscious automatic System 1 activates the higher cortical conscious personality of System 2, bringing about throat muscle contractions which inform others that it sees the world in certain ways, which commit it to potential actions. A huge advance over prelinguistic or protolingistic interactions in which only gross muscle movements were able to convey very limited information about intentions.

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.

These descriptions of cognition and volition are summarized in Table 2.1 of MSW, which Searle has used for many years and is the basis for an extended one I have created. In my view it helps enormously to relate this to modern psychological research by using my S1, S2, S3 terminology and W's true-only vs propositional (dispositional) description. Thus CSR references S1 true-only perception, memory and prior intention, while S2 refers to dispositions such as belief and desire.

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 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. Via prior intentions and intentions-in-action, 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 with COS (i.e., 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 S has described as 'The Phenomenological Illusion.'

It follows in a very straightforward and inexorable fashion, both from W's 3rd period work and from the observations of contemporary psychology, that 'will', 'self' and 'consciousness' are axiomatic true-only elements of System 1 just like seeing, hearing, etc., 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.

Language and writing are special because the short wavelength of vibrations of vocal muscles enable much higher bandwidth information transfer than contractions of other muscles and this is on average several orders of magnitude higher for visual information.

Thinking is propositional and so deals with true or false statements, which means that it is a typical S2 disposition which can be tested, as opposed to the true-only automatic cognitive functions of S1. Or you can say that spontaneous utterances and actions are the primitive reflexes or Primary Language Games (PLG) of S1, while conscious representations are the dispositional Secondary Language Games (SLG's) of S2. It sounds trivial and indeed it is, but this is the most basic statement of how behavior works and hardly anyone has ever understood it.

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, most often for reciprocal altruism), 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).

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.

Though W is correct that there is no mental state that constitutes meaning, S notes (as quoted above) 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 is an act and not a mental state. This can be seen as another statement of W's argument against private language (personal interpretations vs publicly testable ones). Likewise with rule following and interpretation --they can only be publicly checkable acts--no private rules or private interpretations either. 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 psychology which he often calls the background, and it is this which underlies all behavior and which is schematized in the table.

As I have noted in my other reviews, few if any have fully understood the later W and, lacking the S1, S2 framework it is not surprising. Thus one can understand why one cannot imagine an object while seeing it as the domination of S2 by S1. There is no test for my inner experiences, so whatever comes to mind when I imagine Jack's face is the image of Jack. Similarly with reading and calculation which can refer to S1, S2 or a combination and there is the constant temptation to apply S2 terms to S1 processes where the lack of any test makes them inapplicable. Two of W's famous examples used for combatting this temptation are playing tennis without a ball ('S1 tennis'), and a tribe that had only S2 calculation so 'calculating in the head ('S1 calculating') was not possible. 'Playing' and 'calculating' describe actual or potential acts--i.e., they are disposition words but with plausible reflexive S1 uses so as I have said before one really ought to keep them straight by writing 'playing1' and 'playing2' etc. But we are not taught to do this and so we want to either dismiss 'calculating1' as a fantasy, or we think we can leave its nature undecided until later. Hence another of W's famous comments--"The decisive movement in the

conjuring trick has been made, and it was the very one we thought quite innocent." That is, the first few sentences or often the title commit one to a way of looking at things (a language game) which prevents clear use of language in the present context.

A sentence expresses a thought (has a meaning), when it has clear COS, and this means has 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 interpreted as the logical structure of language, and that in spite of his frequent warnings against theorizing and generalizing, this is about as broad a characterization of philosophy and higher order descriptive psychology as one can find.

Likewise with the question "What makes it true that my image of Jack is an image of him?" Imagining is another disposition and the COS is that the image I have in my head is Jack and that's why I will say `YES' if shown his picture and `NO' if shown one of someone else. The test here is *not* that the photo matches the vague image I had but that I intended it (had the COS that) to be an image of him. 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 (PE's) 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. Thinking and intending are S2 dispositions which can only be expressed by reflexive S1 muscle contractions, especially those of speech.

Now that we have a reasonable start on the Logical Structure of Rationality (the Descriptive Psychology of Higher Order Thought) laid out we can look at the table of Intentionality that results from this work, which I have constructed over the last few years. It is based on a much simpler one from Searle, which in turn owes much to Wittgenstein. I have also incorporated in modified form tables being used by current researchers in the psychology of thinking processes which are evidenced in the last 9 rows. It should prove interesting to compare it with those in Peter Hacker's 3 recent volumes on Human Nature. I offer this table as an heuristic for describing behavior that I find more complete and useful than any other framework I have seen and not as a final or complete analysis, which would have to

be three dimensional with hundreds (at least) of arrows going in many directions with many (perhaps all) pathways between S1 and S2 being bidirectional. Also, the very distinction between S1 and S2, cognition and willing, perception and memory, between feeling, knowing, believing and expecting etc. are arbitrary--that is, as W demonstrated, all words are contextually sensitive and most have several utterly different uses (meanings or COS). Many complex charts have been published by scientists but I find them of minimal utility when thinking about behavior (as opposed to thinking about brain function). Each level of description may be useful in certain contexts but I find that being coarser or finer limits usefulness.

INTENTIONALITY (personality)-the Construction of Social Reality ©2015 Michael Starks

	(Involuntary Rules R1)				(Voluntary Rules R2)		
	Thinking (Cognition)(No gaps)				Willing (Volition)(3 gaps)		
	Preferences*	Emotions	Memory	Perception	Desires	IA** +	Actions/Words
Cause Originates From	World	World	World	World	Mind	Mind	Mind
Causes Changes In	None	Mind	Mind	Mind	None	World	World
Causally Self Referential***	No	Yes	Yes	Yes	No	Yes	Yes
True or False(Testable)	Yes	T only	T only	T only	Yes	Yes	Yes
Public Conditions of Satisfaction	Yes	Yes/No	No	No	Yes/No	Yes/No	Yes
Describe a Mental State	No	Yes	Yes	Yes	No	Yes/No	Yes
Evolutionary Priority	5	4	2 (3?)	1	5	2	2
Voluntary Content	Yes	No	No	No	No	Yes	Yes
Voluntary Initiation	Yes/No	No	Yes	No	Yes/No	Yes	Yes
Cognitive System ****	2	1	1	1	2 / 1	2	2

Change Intensity	No	Yes	Yes	Yes	Yes	No	No
Precise Duration	No	Yes	Yes	Yes	No	Yes	Yes
Time and Place(H+N or T+T)*****	TT	HN	HN	HN	TT	HN	HN
Special Quality	No	Yes	No	Yes	No	No	No
Localized in Body	No	No	No	Yes	No	Yes	Yes
Bodily Expressions	Yes	Yes	No	No	Yes	Yes	Yes
Self Contradictions	No	Yes	No	No	Yes	No	No
Needs a Self	Yes	Yes/No	No	No	Yes	No	No
Needs Language	Yes	No	No	No	No	No	Yes/No
Subliminal Effects	No	Yes/No	Yes	Yes	No	No	Yes/No
Associative/Rule Based	RB	A/RB	A	A	A/RB	RB	RB
Context Dependent/Abstract	A	CD/A	CD	CD	CD/A	CD/A	CD/A
Serial/Parallel	S	S/P	P	P	S/P	S	S
Heuristic/Analytic	A	H/A	H	H	H/A	A	A
Needs Working Memory	Yes	No	No	No	No	Yes	Yes
General Intelligence Dependent	Yes	No	No	No	Yes/No	Yes	Yes
Cognitive Loading Inhibits	Yes	Yes/No	No	No	Yes	Yes	Yes
Arousal Facilitates or Inhibits	I	F/I	F	F	I	I	I

“The basic form of the game must be one in which we act.” Wittgenstein- Cause and Effect p397(1937)

* Aka Inclinations, Capabilities, Dispositions, Representations etc.

** Intention In Action

*** (Mental State instantiates--Causes or Fulfills --Itself)

**** Tversky/Kahneman/Frederick/Evans/Stanovich defined cognitive systems.

***** Here and Now or There and Then

EXPLANATION OF THE TABLE

About a million years ago primates evolved the ability to use their throat muscles to make complex series of noises (i.e., primitive speech) to describe present events (perceptions, memory, reflexive actions that can be described as Primary or Primitive Language Games (PLG's)—i.e., one class of reflexes of the fast associative unconscious automated System 1, subcortical, nonrepresentational, causally self-referential, intransitive, informationless, true only mental states with

a precise time and location) and gradually developed the further ability to encompass displacements in space and time to describe memories, attitudes and potential events (the past and future and often counterfactual, conditional or fictional preferences, inclinations or dispositions—the Secondary or Sophisticated Language Games (SLG's) of System 2 slow, cortical, conscious, information containing, transitive (having public COS), representational, true or false propositional attitudinal thinking, which has no precise time and are abilities and not mental states). Preferences are Intuitions, Tendencies, Automatic Ontological Rules, Behaviors, Abilities, Cognitive Modules, Personality Traits, Templates, Inference Engines, Inclinations, Emotions, Propositional Attitudes, Appraisals, Capacities, Hypotheses. Some Emotions are Type 2 Preferences (W RPP2 148). "I believe", "he loves", "they think" are descriptions of possible public acts typically displaced in spacetime. My first person statements about myself are true-only (excluding lying) while third person statements about others are true or false (see my review of Johnston 'Wittgenstein: Rethinking the Inner').

"Preferences" as a class of intentional states --opposed to perceptions, reflexive acts and memories-- were first clearly described by Wittgenstein (W) in the 1930's and termed "inclinations" or "dispositions". They have commonly been termed "propositional attitudes" since Russell but this is a misleading phrase since believing, intending, knowing, remembering etc., are often not propositions nor attitudes, as has been shown e.g., by W and by Searle (e.g., cf Consciousness and Language p118). They are intrinsic, observer independent mental representations (as opposed to presentations or representations of System 1 to System 2 – Searle-C+L p53). They are potential acts displaced in time or space while the evolutionarily more primitive S1 perceptions memories and reflexive actions are always here and now. This is one way to characterize System 2 –the major advance in vertebrate psychology after System 1—the ability to represent events and to think of them as occurring in another place or time (Searle's third faculty of counterfactual imagination supplementing cognition and volition). S2 dispositions are abilities to act (contract muscles producing speech or body movements via S1 at which time they become causal and mental states). Sometimes dispositions may be regarded as unconscious since they can become conscious later-Searle-Phil Issues 1:45-66(1991).

Perceptions, memories and reflexive (automatic) actions can be described as S1 or Primary Language Games's (PLG's --e.g., I see the dog) and there are, in the normal case, NO TESTS possible so they can be True Only. Dispositions can be described as secondary LG's (SLG's –e.g. I believe I see the dog) and must also be acted out, even for me in my own case (i.e., how do I KNOW what I believe, think, feel until I act—see above quotes from W). Dispositions also become Actions when spoken or written as well as being acted out in other ways, and these ideas are all due to Wittgenstein (mid 1930's) and are NOT Behaviorism (Hintikka & Hintikka 1981, Searle, Hutto etc.,). Wittgenstein can be regarded as the founder of evolutionary psychology and his work a unique investigation of the functioning of our axiomatic System 1 psychology and its interaction with System 2. Though few have understood it well (and arguably nobody fully to this day) it was further

developed by a few --above all by John Searle, who made a simpler version of this table in his classic book *Rationality in Action* (2001). It expands on W's survey of the axiomatic structure of evolutionary psychology developed from his very first comments in 1911 and so beautifully laid out in his last work *On Certainty* (OC) (written in 1950-51). OC is the foundation stone of behavior or epistemology and ontology (arguably the same), cognitive linguistics or DPHOT, and in my view the single most important work in philosophy (descriptive psychology) and thus in the study of behavior. Perception, Memory, Reflexive actions and Basic Emotions are primitive partly Subcortical Involuntary Mental States, that can be described in PLG's, in which the mind automatically fits the world (is Causally Self Referential--Searle)--the unquestionable, true only, axiomatic basis of rationality over which no control is possible). Preferences, Desires, and Intentions are descriptions of slow thinking conscious Voluntary Abilities—that can be described in SLG's-- in which the mind tries to fit the world. Behaviorism and all the other confusions of our default descriptive psychology (philosophy) arise because we cannot see S1 working and describe all actions with Secondary Language Games (SLG's) which S calls The Phenomenological Illusion (TPI). W understood this and described it with unequalled clarity with hundreds of examples of language (the mind) in action throughout his works. Reason has access to working memory and so we use consciously apparent but typically incorrect reasons to explain behavior (the Two Selves of current research). Beliefs and other Dispositions can be described as thoughts which try to match the facts of the world (mind to world direction of fit), while Volitions are intentions to act (Prior Intentions—PI, and Intentions In Action-IA-Searle) plus acts which try to match the world to the thoughts—world to mind direction of fit—cf. Searle e.g., C+L p145, 190).

Sometimes there are gaps in reasoning to arrive at belief and other dispositions. Inclination words can be used as nouns which *seem* to describe mental states (e.g. belief), or as verbs which describe abilities (agents as they act or might act) (e.g., believing) and are often incorrectly called "Propositional Attitudes". Perceptions become Memories and our innate programs (cognitive modules, templates, inference engines of S1) use these to produce Dispositions—(actual or potential PUBLIC ACTS also called Inclinations, Preferences, Capabilities, Representations of S2) and Volition -and there is no language (concept, thought) of PRIVATE mental states for thinking or willing (i.e., no private language). Higher animals can think and will acts and to that extent they have a public psychology. Perceptions: ("X" is True): Hear, See, Smell, Pain, Touch, temperature

Memories: Remembering, Dreaming (S1)

Preferences, Inclinations, Dispositions (X might become True) (S2)

CLASS 1: Believing, Judging, Thinking, Representing, Understanding, Choosing, Deciding, Preferring, Interpreting, Knowing (including skills and abilities), Attending (Learning), Experiencing, Meaning, Remembering, Intending,

**Considering, Desiring , expecting, wishing , wanting, hoping(a special class),
Seeing As (Aspects),**

CLASS 2: DECOUPLED MODE-- Dreaming , Imagining, Lying, Predicting, Doubting

**CLASS 3: EMOTIONS: Loving, Hating, Fearing, Sorrow, Joy, Jealousy, Depression .
Their function is to modulate Preferences to increase inclusive fitness (expected
maximum utility) by facilitating information processing of perceptions and
memories for rapid action. There is some separation between S1 emotions such as
rage and fear and S2 such as love, hate, disgust and anger.**

**DESIRES: (I want "X" to be True—I want to change the world to fit my thoughts) :
Longing, Hoping, Expecting, Awaiting, Needing, Requiring, obliged to do**

INTENTIONS: (I will make "X" True) Intending

**ACTIONS (I am making "X" True) : Acting, Speaking , Reading, Writing,
Calculating, Persuading, Showing, Demonstrating, Convincing, Doing Trying,
Attempting, Laughing, Playing, Eating, Drinking, Crying, Asserting(describing,
teaching, predicting, reporting), Promising , Making or Using Maps, Books,
Drawings, Computer Programs—these are Public and Voluntary and transfer
Information to others so they dominate over the Unconscious, Involuntary and
Informationless S1 reflexes in explanations of behavior.**

**ALL WORDS ARE PARTS OF COMPLEX LANGUAGE GAMES (THOUGHTS LEADING TO
ACTIONS) HAVING VARIOUS FUNCTIONS IN OUR LIFE AND ARE NOT THE NAMES
OF OBJECTS NOR OF A SINGLE TYPE OF EVENT. We drive a car but also own it, see
it, see its photo, dream about it, imagine it, expect it, remember it. The social
interactions of humans are governed by cognitive modules—roughly equivalent to
the scripts or schemata of social psychology (groups of neurons organized into
inference engines), which, with perceptions and memories, lead to the formation
of preferences which lead to intentions and then to actions. Intentionality or
intentional psychology can be taken to be all these processes or only preferences
leading to actions and in the broader sense is the subject of cognitive psychology
or cognitive neurosciences when including neurophysiology, neurochemistry and
neurogenetics. Evolutionary psychology can be regarded as the study of all the
preceding functions or of the operation of the modules which produce behavior,
and is then coextensive in evolution, development and individual action with
preferences, intentions and actions. Since the axioms (algorithms or cognitive
modules) of our psychology are in our genes, we can enlarge our understanding
by giving clear descriptions of how they work and can extend them (culture) via
biology, psychology, philosophy (descriptive psychology), math, logic, physics,
and computer programs, thus making them faster and more efficient. Hajek
(2003) gives an analysis of dispositions as conditional probabilities and they are
algorithmatized by Spohn etc.**

**Intentionality (cognitive or evolutionary psychology) consists of various aspects of
behavior which are innately programmed into cognitive modules (however**

defined) which create and require consciousness, will and self and in normal human adults all dispositions are purposive, require public acts (e.g., language), and commit us to relationships (called Desire Independent Reasons for Action-DIRA by Searle) in order to increase our inclusive fitness (maximum expected utility—sometimes called-controversially-Bayesian utility maximization) via dominance and reciprocal altruism and impose Conditions of Satisfaction on Conditions of Satisfaction -Searle-(i.e., relate thoughts to the world via public acts (muscle movements –i.e., math, language, art, music, sex, sports etc.). The basics of this were figured out by our greatest natural psychologist Ludwig Wittgenstein from the 1930's to 1951 but with clear foreshadowings back to 1911 ("The general tree of psychological phenomena. I strive not for exactness but for a view of the whole." RPP Vol 1 P895 cf Z P464), and with refinements by many, but above all by John Searle beginning in the 1960's. Much of our S2 intentionality admits of degrees or kinds (principally language games). As W noted, inclinations (e.g. thinking) are sometimes conscious and deliberative. All our templates (functions, concepts, language games) have fuzzy edges in some contexts as they must to be useful. There are at least two types of thinking (i.e., two language games or ways of using the dispositional verb "thinking")—non-rational without awareness and rational with partial awareness(W), now described as the fast and slow thinking of S1 and S2. It is useful to regard these as language games and not as mere phenomena (W RPP2 129). Mental phenomena (our subjective or internal "experiences") are epiphenomenal, lack criteria, hence lack info even for oneself and thus can play no role in communication, thinking or mind. Thinking like all dispositions (inclinations, propositional attitudes) is not a mental state, and contains no information until it becomes a public act (realizes a COS) in speech, writing or other muscular contractions. Our perceptions and memories can have information (meaning-COS) when they are manifested in public actions via S2, for only then do they have any meaning (consequences) even for ourselves.

Memory and perception are integrated by modules into dispositions which become psychologically effective when they are acted upon. Developing language means manifesting the innate ability to substitute words for acts. The common term TOM (Theory of Mind) is much better called (UA-Understanding of Agency). Intentionality is the innate genetically programmed production of consciousness, self, and thought which leads to intentions and then to actions by contracting muscles. Thus, "propositional attitude" is a confusing term for normal intuitive rational or non-rational speech and action but I give it as an synonym for dispositions as it's still widely used by those unfamiliar with W and S. The efforts of cognitive science to understand thinking, emotions etc. by studying neurophysiology is not going to tell us anything more about how the mind (thought, language) works (as opposed to how the *brain* works) than we already know, because "mind" (thought, language) is already in full public view (W). Any phenomena that are hidden in neurophysiology, biochemistry, genetics, quantum mechanics, or string theory, are as irrelevant to our social life as the fact that a table is composed of atoms which "obey" (can be described by) the laws of

physics and chemistry is to having lunch on it. As W so famously said "Nothing is hidden". Everything of interest about the mind (thought, language) is open to view if we only examine carefully the workings of language. Language was evolved to facilitate social interaction and thus the gathering of resources, survival and reproduction. Its grammar functions automatically and is extremely confusing when we try to analyze it. Words and sentences have multiple uses depending on context. I believe and I eat have profoundly different roles as do I believe and I believed or I believe and he believes. The present tense first person expressive use of inclinational verbs such as "I believe" describe my ability to predict my probable acts and are not descriptive of my mental state nor based on knowledge or information in the usual sense of those words (W). "I believe its raining", "I believed it was raining", "he believes its raining", "he will believe its raining, ", "I believe it will rain" or "he will think it's raining" are potentially verifiable public acts displaced in spacetime that intend to convey information (or misinformation) and so have COS which are their truth (or falsity) makers.

Non-reflective or Non-rational (automatic) words spoken without Prior Intent have been called Words as Deeds by W & then by DMS in her paper in Philosophical Psychology in 2000) are typical of much of our behavior as they bridge S1 and S2 which interact in both directions most of our waking life. Perceptions, Memories, some Emotions and many "Type 1 Dispositions" are better called Reflexes of S1 and are automatic, non-reflective, NON-Propositional and NON-Attitudinal functioning of the hinges (axioms, algorithms) of our Evolutionary Psychology (Moyal-Sharrock after Wittgenstein).

Now for some comments on "The Opacity of Mind" (OM).

By the time I finished the first page of the preface, I realized this book was just another hopeless mess (the norm in philosophy). He made it clear that he had no grasp of the subtlety of language games (e.g., the drastically different uses of 'I know I'm awake', 'I know what I mean' and 'I know what time it is') nor the nature of dispositions (which he calls by the misleading and obsolete term 'propositional attitudes') and was basing his ideas about behavior on such notions as private language, introspection of 'inner speech' and the computational description of mind, which were laid to rest by W $\frac{3}{4}$ of a century ago and by S and many others since. But I knew most books on human behavior are just as confused and that he was going to give a summary of recent scientific work on the brain functions corresponding to higher order thought (HOT), so I kept on.

Before I read any book in philosophy or cognitive science, I go to the index and bibliography to see whom they cite and then try to find some reviews and especially an article in BBS since it has peer feedback, which is generally highly informative. As noted above, W and S are two of the most famous names in this field but in the index and bibliography I found only 3 trivial mentions of W and not one for S or Hacker—surely the most remarkable achievement of this volume. As expected, several reviews from philosophical journals were useless and the BBS responses to his précis of this book appear devastating--though, characteristically (with the exception of one mention of W) -- they too are clueless about WS. More remarkable, though he includes many references as recent as 2012, the 2009

BBS article is not among them and, so far as I can recall, he does not provide substantive responses to its criticisms in this book. Consequently, the powerful WS inspired LSR framework is totally absent and all the confusions it has cleared away are abundant on nearly every page. If you read the above and my other reviews and then the BBS article (readily available free on the net) your view of this book (and most writing in this arena) will likely be quite different. Of course the major defect of BBS is apparent--- the commenters get only a one page comment and no reply, while the authors get a long article and a long reply so it always appears that they prevail. It is clear however that C's ISA theory, like most (all?) philosophical theories is a shape shifter which alters to "explain" every objection. Thus the line between a meaningful theory (actually a *description*) tied to facts and a vague notion that "explains" nothing blurs. Of course C often says that his theory "predicts" such and such observation but this appears to occur after the fact and of course the opposing theories shape shift as well. A powerful theory predicts things which nobody was expecting and even the opposite of what they were expecting. We are also reminded of W's constant injunctions to stick to *describing* the facts and avoid otiose "explanations".

W's definitive arguments against introspection and private language are noted in my other reviews and are extremely well known. Basically they are as clear as day—we must have a test to differentiate between A and B and tests can only be external and public. He famously illustrated this with the 'Beetle in the Box'. If we all have a box that cannot be opened nor x-rayed etc. and call what is inside a 'beetle' then 'beetle' cannot have any role in language, for every box could contain a different thing or it could even be empty. So, there is no private language that only I can know and no introspection of 'inner speech'. If X is not publicly demonstrable it cannot be a word in our language. This shoots down Carruther's (C's) ISA theory of mind, as well as all the other 'inner sense' theories which he references and a huge # of other books and articles. I have explained W's dismantling of the notion of introspection and the functioning of dispositional language ('propositional attitudes') 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.

Regarding ISA, many have deconstructed the idea of a 'language of thought' but in my view none better than W in BBB p37—"if we keep in mind the possibility of a picture which, though correct, has no similarity with its object, the interpolation of a shadow between the sentence and reality loses all point. For now the sentence itself can serve as such a shadow. The sentence is just such a picture, which hasn't the slightest similarity with what it represents."

One thing to keep in mind is that philosophical theories have no practical impact whatsoever- the real role of philosophy being to clear up confusions about how language is being used in particular cases (W). Like various 'physical theories' but unlike other cartoon views of life (i.e., the standard religious, political, psychological, sociological, biological, medical, economic, anthropological and historical views of most people), it is 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. Likewise with other academic 'theories of life' such as the Standard Social Science or Blank Slate Model widely shared by sociology, anthropology, pop psychology, history and literature. However, religions big and small,

political movements, and sometimes economics often generate or embrace already existing cartoons that ignore physics and biology (human nature), posit forces terrestrial or cosmic that reinforce our superstitions (our innately inspired psychological defaults), and help to lay waste to the earth (the real purpose of nearly every social practice and institution which are there to facilitate replication of genes and consumption of resources). The point is to realize that these are on a continuum with philosophical cartoons and have the same source. All of us could be said to have various cartoon views of life when young and only a few ever grow out of them.

Also note that, as W remarked long ago, the prefix "meta" is unnecessary and confusing in most (maybe all) contexts, so for 'metacognition' in this book, substitute 'cognition' or 'thinking', since thinking about what we or others believe or know is thinking like any other and does not have to be seen as 'mindreading' (UA in my terminology) either. In S's terms, the COS are the test of what is being thought and they are identical for 'it's raining', 'I believe it's raining', 'I believe you believe it's raining' and 'he believes it's raining' (likewise for 'knows', wishes, judges, understands, etc.), namely that it's raining. This is the critical fact to keep in mind regarding 'metacognition' and 'mindreading' of dispositions ('propositional attitudes') which C promotes.

One of the responses in BBS was by Dennett (who shares most of C's illusions), who seems to find these ideas quite good, except that C should eliminate the use of 'I' since it assumes the existence of a higher self (the aim being hard reduction of S2 to S1). Of course the very act of writing, reading and all the language and concepts of anything whatsoever presuppose self, consciousness and will (as S often notes), so such an account would be just a cartoon of life without any value whatsoever, which one could probably say of most philosophical accounts of behavior. The WS framework has long noted that the first person point of view is not eliminable or reducible to a 3rd person one, but this is no problem for the cartoon view of life. Likewise with the description of brain function or behavior as 'computational', 'information processing' etc, -- all well debunked countless times by WS, Hutto, Read, Hacker and many others. Worst of all is the crucial but utterly unclear "representation", for which I think S's use as a condition of satisfaction (COS) of representing (i.e., the same form as for all dispositional nouns and their verbs) is by far the best. That is, the 'representation' of 'I think it's raining' is the COS that it's raining.

Saddest of all is that C (like Dennett) thinks he is an expert on W, having studied him early in his career and decided that the private language argument is to be rejected as 'behaviorism'! 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) And one can also point to *real* behaviorism in C in its modern 'computationalist' form. WS insist on the indispensability of the first person point of view while C apologizes to D in the BBS article for using "I" or "self". This is in my view the difference between an accurate description of language use and the use one can imagine in a cartoon.

Hutto has shown the vast gulf between W and Dennett (D) which will serve to characterize C as well, since I take D and C (along with the Churchland's and many others) to be on the

same page. S is one of many who have deconstructed D in various writings and these can all be read in opposition to C. And let us recall that W sticks to examples of language in action, and once one gets the point he is mostly very easy to follow, while C is captivated by 'theorizing' (i.e., chaining numerous sentences with no clear COS) and rarely bothers with specific language games, preferring experiments and observations that are quite difficult to interpret in any definitive way (see the BBS responses), and which in any case have no relevance to higher level descriptions of behavior (e.g., exactly how do they fit into the Intentionality Table). One book C praises as definitive (*Memory and the Computational Brain*) presents the brain as a computational information processor—a sophomoric view thoroughly and repeatedly annihilated by S and others. In the last decade I have read thousands of pages by and about W and it is quite clear that C does not have a clue. In this he joins a long line of distinguished philosophers and scientists whose reading of W was fruitless—Russell, Quine, Godel, Kreisel, Chomsky, Dummett, Kripke, Dennett, Putnam etc.(though Putnam began to see the light later). They just cannot see that most philosophy is grammatical jokes and impossible vignettes—a cartoon view of life.

Books like this that attempt to bridge two levels of description are really two books and not one. There is the description (not explanation, as W made clear) of our language and nonverbal behavior and then the experiments of cognitive psychology. "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."(W PI p232), C et al are enthralled by science and just assume that it is a great advance to wed high level descriptive psychology to neuroscience and experimental psychology, but WS and many others have shown this is a mistake. Far from making the description of behavior scientific and clear, it makes it incoherent. And it must have been by the grace of God that Locke, Kant, Nietzsche, Sartre, Wittgenstein, Searle et al were able to give such memorable accounts of behavior without any experimental science whatsoever. Of course like politicians, philosophers rarely admit mistakes or shut up so this will go on and on for reasons W diagnosed perfectly. The bottom line has to be what is useful and what makes sense in our everyday life. I suggest the philosophical views of CDC (Carruthers, Dennett, Churchland), as opposed to those of WS, are not useful and their ultimate conclusions that will, self and consciousness are illusions make no sense at all—i.e., they are meaningless having no clear COS. Whether the CDC comments on cognitive science have any heuristic value remains to be determined.

This book (like a huge body of other writing) tries to discount the HOT of other animals and to reduce behavior to brain functions (to absorb psychology into physiology). The philosophy is a disaster but, provided one first reads the many criticisms in the BBS, the commentary on recent psychology and physiology may be of interest. Like Dennett, Churchland and so many others often do, C does not reveal his real gems til the very end, when we are told that self, will, consciousness (in the senses in which these words normally function) are illusions (supposedly in the normal sense of this word). Dennett had to be unmasked by S, Hutto et al for explaining away these 'superstitions' (i.e., not explaining at all and in fact not even *describing*) but amazingly C also admits it at the beginning, though of course he thinks he is showing us these words do not mean what we think and that his cartoon use is the valid one.

One should also see Hacker's criticisms of cog sci with replies by S and Dennett in "Neuroscience and Philosophy" and well explored in Hacker's books "Human Nature" and "Philosophical Foundations of Neuroscience" (see my reviews). It is remarkable that virtually nobody in all the behavioral disciplines (in which I include literature, history, politics, religion, law, art etc as well as the obvious ones) ever states either their logical framework or what it is that they are trying to accomplish and what role language analysis and science play, so all those interested in behavior might consider memorizing Hacker's lovely summary of what philosophy (DPHOT) aims to do and how this relates to scientific pursuits.

"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). Of course I would add that it is the study of our evolved psychology, of DPHOT, of the contextual sensitivity of language (W's language games). It is not trivial to state these facts as it is quite rare to find anyone who grasps the big picture and even my hero's such as Searle, Priest, Pinker, Read etc. fall embarrassingly short when they try to define their professions.

There have long been books on chemical physics and physical chemistry but there is no sign that the two will merge (nor is it a coherent idea) nor that chemistry will absorb biochemistry nor it in turn will absorb physiology or genetics, nor that biology will disappear nor that it will eliminate psychology, sociology, etc. This is not due to the 'youth' of these disciplines but to the fact that they are different levels of description with entirely different concepts, data and explanatory mechanisms. But physics envy is powerful and we just cannot resist the 'precision' of physics, math, information, and computation vs the vagueness of higher levels. It 'must' be possible. Reductionism thrives in spite of the incomprehensibility of quantum mechanics, uncertainty, wave/particles, live/dead cats, quantum entanglement, and the incompleteness and algorithmic randomness of math (Godel/Chaitin—see my review of Yanofsky's 'The Outer Limits of Reason') and its

irresistible pull tells us it is due to EP defaults. Again a breath of badly needed fresh air from W: "For the crystalline purity of logic was, of course, not *a result of investigation*: it was a requirement." PI p107. And once again W from the Blue Book—"Philosophers constantly see the method of science before their eyes, and are irresistibly tempted to ask and answer in the way science does. This tendency is the real source of metaphysics, and leads the philosopher into complete darkness." It is hard to resist throwing down most books on behavior and rereading W and S. Just jump from anything to e.g. these quotes from PI http://topologicalmedialab.net/xinwei/classes/readings/Wittgenstein/pi_94-138_239-309.html.

I suggest viewing the question of mind as essentially the same as all the 'deep' philosophical questions. We want to understand the 'reality' perceived by S1, but S2 is not up to it. It's all (or mostly) in the unconscious machinations of S1 via DNA. We don't know but our DNA does courtesy of the death of trillions of organisms over some 3 billion years. So we struggle with science and ever so slowly describe the mechanisms of mind (i.e., of brain), knowing that even should we arrive at "complete" knowledge of the brain, we would just have a description of what neuronal pattern corresponds to seeing red or making a choice and an "explanation" of why is not possible (not intelligible).

It is obvious to me after reading tens of thousands of pages of philosophy that the attempt to do higher level descriptive psychology of this kind, where ordinary language morphs into special uses both deliberately and inadvertently, is essentially impossible (i.e., the *normal* situation in philosophy and other behavioral disciplines). Using special jargon words (e.g., intensionality, realism etc.) does not work either as there are no philosophy police to enforce a narrow definition and the arguments on what they mean are interminable. Hacker is good but his writing so precious and dense it's often painful. Searle is very good but requires some effort to embrace his terminology and I believe he makes a few major mistakes, while W is hands down the clearest and most insightful, once you grasp what he is doing, and nobody has ever been able to emulate him. His TLP remains the ultimate statement of the mechanical reductionist view of life, but he later saw his mistake and diagnosed and cured the 'cartoon disease', but few get the point and most simply ignore him and biology as well, and so there are tens of thousands of books and millions of articles and most religious and political organizations (and until recently most of economics) and almost all people with cartoon views of life. But the world is not a cartoon, so a great tragedy is being played out as the cartoon views of life collide with reality and universal blindness and selfishness bring about the collapse of civilization over the next two centuries.

I hesitate to recommend C's writings to anyone, as the experienced ought to have about the same perspective I do, and the naïve will be wasting their time. Either read philosophy or cognitive science and avoid the amalgams. Among the endless books and articles available, I commend the 3 volumes on Human Nature edited by Carruthers (yes the same), the 3 on Human Nature written by Hacker, the Handbook of Evolutionary Psychology (hopefully in a new edition soon), and my reviews of WS, Hutto, DMS, Hacker et al. and the original books. Finally, I suggest that if we accept W's equation of language and mind and regard the 'mind/body problem' as the 'language/body problem' it may help achieve his therapeutic aim.

