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Between Knowing how and Knowing that *

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There is something I don't understand about the discussion on "knowing how" and "knowing that". Is it a real alternative, or is it a question on how to use the term "to know"? The recent solution by Williamson-Stanley 2000 ("knowing how" is reducible to "knowing that") implies a distinction between two kinds of "knowing that": a normal "knowing that" and a "knowing that" with *practical modes of presentation (MOP)*. Does the second take the place of the old "knowing how"? Is that a real advantage? What could we gain from abandoning the old distinction of Ryle's Anti-Intellectualism and accepting the new distinction of Intellectualism?

Old Distinction	*New Distinction*
(Ryle)	(Stanley-Williamson)
knowing that	knowing that
knowing how	knowing that with practical MOPs

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Is that all? Well, no. While anti-intellectualists tend to identify knowing how with having a certain ability or being able to do something, we are suggested by intellectualists to distinguish knowledge from ability to do things; one may be able to do certain actions without knowing how to do them. Really? If there is a basic distinction between "knowing a way to do things with practical MOPS" and "ability", why not to say that Ryle was confused in overlapping the conception of "knowing how" and the conception of "being able to"?

With these worries, I decided to re-read Engel 2007 to find suggestions on this issue (and to find a justification of my participating to the volume in his honor). And I have found further worries. In this paper I will therefore present some problems raised by reading Engel on "Taking seriously Knowledge as a Mental State".

1. Engel and Williamson: knowledge as a mental state is not a natural kind

Engel accepts Williamson's definition of knowledge. As Sellars claimed the priority of "seeing "on "seeing as", Williamson claims the priority of "knowing" on "believing". Sellars 1956 argued that Descartes – giving preeminence to ideas or impressions in the mind – put things in reverse order. From a stereotypical "Cartesian" point of view, that something *looks* green is the primary datum from which to start; then we may reach certainly and knowledge when we are justified to say that something *is* green. Contrary to this view – as Brandom 1977 says in his commentary to "Empiricism and the Philosophy of Mind" – "'Looks' talk does not form an autonomous stratum of the language – it is not a language-game one could play though one played no other. One must already be able to use 'is-*F*' talk in order to master 'looks-*F*' talk, which turns out to be parasitic on it. In this precise practical sense, is-F is *conceptually* (Sellars often says 'logically') *prior* to *looks-F*." An argument similar to the one suggested by Sellar for the priority of *is-F* to *looks-F* could be developed for the conceptual priority of knowing over believing. Mimicking Sellars' argument in short we may say that belief could not be a language game on its own unless we presuppose knowing, given that to believe can be interpreted as to be uncertain about our knowledge. I believe because I am not sure to know.[1]

[1] This is just my intuitive formulation of the problem. Williamson's main argument is different, but one of the arguments given in Williamson (2000: 69-70)on the primeness of knowlege is based on the primeness of "seeing"; the topic is discussed by Engel (2007: 54-55) to show that

Both knowing and seeing share the semantic property of being factive. To claim that an attitude A is factive is to claim that if one As that P, therefore P. An internalist may accept that knowledge is factive: S knows that he is thinking, therefore he is thinking; but, from an internalist viewpoint, this factive aspect of the attitude of knowing is bound to be conceived inside the mind. To claim that knowledge as a mental state is factive – in respect to all things said to be known – one has to renounce to the Cartesian idea of "private" or "internalist" mental state, because no internal, private idea may have an external fact as a consequence. A mental state factive[2] in the externalist sense may give a different explanation: "being factive, knowledge is a mental state that is *essentially* factive. And being external, knowledge is a condition which is such that one can possess it without ... knowing that one has it": following Williamson, Engel rejects the KK principle (if you know that *p*, then you know that you know that *p*) normally accepted by internalists, and claims that knowledge does not imply that one knows that one knows (55-6). This point may be an essential point of some arguments against the distinction between knowing that and knowing how.

Assuming Williamson's view of knowledge, Engel needs to better define what is no so clearly defined in Williamson's view: to what extend and in which sense knowing is a "primitive" state of mind, a factive mental state from an externalist viewpoint. Assuming that knowing is a mental state seems to imply a naturalization of knowledge, but it is not necessarily so. Actually Williamson's theory of knowledge might be interpreted in two different ways:

> (i) as a normative characterization of knowledge at the conceptual level, as a critique to the traditional definition of knowledge as JTB and a new alternative definition.

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states like seeing and knowing are not a "mere conjunction of something purely internal and something purely external", avoiding therefore a useless opposition between internal and external elements of knowledge.

[2] Engel claims that, being factive, knowing cannot be properly considered a "propositional attitude" because, differently from belief or desire, the state of knowledge cannot be "separated" from the content of knowledge. At first impression this sounds a little strange: "knowing that" is typically "knowing that *p*": what is "*p*"? A proposition. What is "to know"? an attitude. I may have an attitude towards a proposition such that my attitude is inextricably connected to the content of the proposition, but still having an attitude towards it; maybe Engel wants to differentiate the attitude of certainty that accompanies knowledge and knowledge itself which is a kind of state connected to the content of a proposition, but not a proper "attitude". However, if I say "x does not know that p" I have a proposition that can be separated from x's state of knowledge. Can we define "not knowing" an attitude?

> (ii) as a claim on the nature of knowledge; although it may be presented as a metaphysical research and definition, speaking of a mental state implies that knowledge must be studied also with empirical means from psychology to biology.

Not disregarding the second interpretation, Engel maintains that we need to verify *how* Williamson's theory can be confronted with different naturalistic enterprises, to check its compatibility with them. Among the different theories of naturalization of knowledge Engel discusses Kornblith 2002 – according to whom knowledge is a natural kind – aiming to show that Kornblith's account is incompatible with the main features of Williamson's "knowledge" defined as follows:

> (i) K is a genuine mental state
>
> (ii) K is factive
>
> (iii) K is not transparent
>
> (iv) K is primitive
>
> (v) K plays an essential role in the explanation of belief, assertion and action.

There are different kinds of mental states, but we may make the hypothesis that there are kinds of mental states developed by evolution and characterized therefore as natural kinds; according to Kornblith knowledge is a set of cognitive capacities that *underlies* true beliefs and allow member of a species "successfully to negotiate their environment" (Kornblith 2002: 56). While individual behavior may be explained referring to beliefs and desires, successful behavior of a species is explained by the adaptation of these more fundamental cognitive capacities: "if we wish to explain why it is that members of a species have survived, we need to appeal to the causal role of the animal's knowledge of their environment in producing behavior which allows them to succeed in fulfilling their biological needs" (62).

Given that knowledge, in Kornblith's perspective, is a factive mental state, intrinsically associated with the success of interaction with environment at the level of species, and not transparent – given that it belongs also to non human animals – it appears as if it fits most of Williamson's main features of knowledge listed above. Yet, Engel reacts against this possible agreement between these two paradigms, claiming that Kornblith's knowledge cannot satisfy conditions (i)-(v). Engel's discussion is not linked to each condition,

and is touching different general perspectives; it seems to me however that Engel's two main arguments are the ones concerning the inability of Kornblith to differentiate knowledge and belief, and to differentiate human and not human knowledge.

The first argument is that that if we accept that knowledge is "based upon a set of information processing capacities of a general kind which deserve the name of 'natural kind"', then "it is unclear that this can allow us to characterize the mental state in which knowledge consists." (Engel 2007: 63). In fact, also true beliefs are based upon the same set of information processing capacities, and we would have no way to make the difference between knowledge and true beliefs. Besides, defining knowledge in terms of reliability of the same information processing on which beliefs are based, you should not only distinguish knowledge and true belies, but also clarify *why* knowledge is better than true beliefs – something that cannot be explained given the difficulty to distinguish knowledge and true beliefs.

Engel does not make any reference to another possible line of criticism which runs against Kornblith's view in a more direct way: information processing based on perception certainly helped our species to adapt to our environment, but it did so producing from time to time some cognitive information processing enduring in time and typically considered "knowledge" through ages that are false and yet have been fundamental for our survival: just think of the cognitive (perceptual) processing of the rising of the sun as giving information that our star rotates around the earth. We cannot therefore identify all basic information processing or mechanism of survival with knowledge. We should therefore separate knowledge as factive mental state and information processing as mental or biological mechanism apt for survival. In the analogy between Williamson's and Kornblith's knowledge, at least in this case, what is really put in doubt is therefore (ii): success in interaction with the environment does not seem to amount to the truth of the matter. From the fact that S perceives that the sun rotates around the earth, it does not follow that the sun rotates around the earth, although this cognitive processing of our basic perceptual information has been useful to interact with the environment.

The second argument used by Engel is the radical difference in mental representations between humans and not human animals. Kornblith's knowledge as a natural kind is common to humans and non human animals. This "knowledge" would be characterized as a genuine mental state, primitive and not transparent. We have already cast a doubt on the "factive" condition. Engel, although does not say it explicitly, suggests that the Kornblith's "knowl-

edge" forgets the radical difference between human and not human animals given by the advent of language. This advent implies a differentiation in animal and human representation, and the more we consider this difference "the more difficult is to accept that there is a single state of knowledge underlying all instances across all species".[3] I wonder whether there is a more direct way to see the impossibility to use Kornblith's knowledge as an account for Williamson's knowledge: probably it is enough to remark that the information processing common to humans and not human animals cannot perform condition (v) in Williamson's definition as given above, that is "to play an essential role in the explanation of belief, assertion and action". In fact, even if we reject Davidson's view on the impossibility to attribute "beliefs" to animals, it is very difficult to say that animals make assertions. Therefore, what Williamson calls "knowledge" cannot be attributed to non human animals given that it cannot play any role in explaining activities non human animals are not supposed to possess.[4]

2. "Core knowledge" as a challenge to the Intellectualist Theory

One of the main tenets in Engel's viewpoint is that knowledge is specialised and domain specific. He uses also this aspect to criticize Kornblith's view, but probably this feature could be easily taken into account in Kornblith's treatment of knowledge as a set of information processing : a cluster of properties given by the information processing developed as instrument of survival in the environment may be well organized into different specialized kinds. We have however seen at least two features that make Kornblith's perspective incompatible with Williamson's. What about Engel's suggestions? Engel suggests that we can make a good comparison, finding similarities between

[3] Engel 2007: 63. Engel suggests also that taking knowledge as a natural kind for all species in the animal realm faces the difficulty of the generality problem, that has been overcome by Williamson's theory. If Kornblith's "knowledge" is defined by a fixed set of features, we may not be able to assess all the features which make a belief in a given environment reliable as knowledge. But here again I miss the point; in fact Kornblith's knowledge is primitive and does not require to be organized as reliable belief. We are back to the previous point of differentiating knowledge and true belief with some reliability condition. It is not clear whether Kornblith's account is bound to answer to this requirement.

[4] A more complex answer should rely on the role of knowledge to explain action if we give their proper role to objective reasons for acting, abandoning the typical belief/desire account (in an anti-naturalist stance as the one taken by Hornsby 2007).

Williamson's proposal and what is called "core knowledge" by cognitive scientists. We have a basic set of "domain specific capacities" studied by cognitive science as "knowledge" shared by infants and primates: capacity to represent different sort of things (agent, numbers,[5] objects ,places, sounds); capacity to answers questions linked to different tasks (who did it?where? how? what does that do?); capacities that are relatively "encapsulated" and automatic and fast. Engel insists that these capacities extend across species (Spelke and Hausman 2004), but the fact that much is in common between human infants and other animals "does not show that knowledge is a natural kind underlined by a single type of process, for the large variety of process and systems which are at play, and the divergence between animals and humans". (Engel 2005: 65). The point made by Engel is that knowledge cannot be considered a natural kind because there is a such a large varieties in core knowledge that prevents it to be considered a unique natural kind.

Yet, according to Engel, "core knowledge" seems to be fit for most of Williamson's characterization of knowledge: it is a factive, externally based, primary and not transparent state of mind, and it is also linked to action. There is a missing aspect Engel does not explicitly states: core knowledge might not be enough to explain belief, assertion and action, given that sometimes belief, assertion and action require explanation involving complex inferences that core knowledge might be unable to do. This missing aspect makes core knowledge something only partially compatible with a general definition of knowledge, but at the same time makes core knowledge a different proposal from the more radical naturalistic view held by Kornblith. The difference with Kornblith's view is that core knowledge "by no means implies that all sorts of knowledge can be based on it, or even reduced to it; on the contrary a lot of knowledge is built out of the basic system of core knowledge, recombined and advanced." (Engel 2007: 66).

Let us stop here for a moment. Core knowledge does not seem to be propositional knowledge; at first sight it seems that core knowledge is what is considered "knowing *how*", or, better, knowing who did it, where, and how. What does it mean that "a lot of knowledge" is built "out" of the basic system of core knowledge? It seems that it means that, once infants have mastered these kinds of capacities, they are ready to develop, inside human communities, the ability to speak a language and therefore the capacity of knowing *that*. At first

[5] It is common to speak of animals recognizing numbers. As far as I have seen, experiments prove that animals choose what is more rewarding: they are able to differentiate groups that we count with different numbers, not that they use numbers; if they are able to make one-one mapping, they do not have the concept "one" :)

sight this should appear more compatible with anti-intellectualists than with intellectualists: core knowledge seems to be exactly the "Knowing how" of which Ryle was speaking about. Besides, can we reduce these capacities to "knowing that"? This is highly implausible, unless we use our linguistic abilities to describe "beliefs" and "actions" of non human animals with a highly intellectualistic attitude. Still, it is easy to accept the idea that a dog *knows that* his master is arriving, although the dog cannot know that his master will come back again next Thursday.[6] But to claim that we, humans, can describe and explain animal beliefs and actions as "knowing that" does not amount to attribute them a fully propositional knowledge.

Notwithstanding all these reservations, developmental psychologists insist that core knowledge is a kind of *theoretical* knowledge. Engel insists on this fact claiming that, if it is correct to define core knowledge a kind of theoretical knowledge, then Ryle's claim that there is a specific form of knowledge, that is "knowing how", which is distinct from propositional knowledge fails, given that we have a core knowledge which is partly propositional and partly practical, but cannot be reduced to a mere "knowing how" as a set of abilities or dispositions.

It seems therefore that Engel takes stance in favour of the Intellectualist account of knowledge, and counting himself on the same side against the Anti-Intellectualist view of knowing how as a fundamental mode of knowledge. However he does so in a very prudential way: in fact to say that core knowledge is "theoretical knowledge" is not to say that it is fully propositional; on the contrary the status of core knowledge is an "intermediary status between perceptual and inferential knowledge" and is seems "neither fully theoretical or propositional nor fully practical" (p.68). The conclusion is that the notion of core knowledge provides a ground to "reject the division between knowing how and knowing that".

Rejecting the division between knowing how and knowing that, Engel renounces to take a definite stance in the debate about the reduction discussed by Stanley-Williamson. This is confirmed by his reservations towards the reduction: "Williamson and Stanley show *at least* that is not obvious that the distinction between knowing how and knowing that is so clear cut, and that

[6] "A dog believes his master is at the door. But can he also believe his master will come the day after to-morrow?—And what can he not do here?—How do I do it?—How am I supposed to answer this? Can only those hope who can talk? (Only those who have mastered the use of a language. That is to say, the phenomena of hope are modes of this complicated form of life. (If a concept refers to a character of human handwriting, it has no application to beings that do not write)." Wittgenstein 1953, II,i.

a lot of knowing how involves knowing that and propositional knowledge" (68). This sounds as a moderate approval, that does not grant the more radical conclusion Stanley Williamson has thought to have proved. Besides Engel seems to interpret their result as a further justification of his own idea that the division between "knowing how" and "knowing that" is to be rejected; but if this is the conclusion, then it amounts to take a stance *against* the reduction of knowing how to knowing that. In fact, eventually, Engel is dissatisfied of the arguments in favour of the reduction: "Stanley and Williamson's arguments are unconvincing insofar they are purely linguistic, and it is not clear to me that a purely linguistic argument can show that knowing how is a form of knowing that" (*ibid*).

Summarizing Engel's position w.r.t. the debate, on the one hand, we have a positive account about conditions of knowledge shared by our "core knowledge", on the other a programmatic view of the kind of discussion to be done to solve the contrast between linguistic behaviorists and linguistic intellectualists. The positive account about conditions of knowledge accepts Williamson's view: if Williamson's view is correct, and as the studies on the core knowledge suggest, all knowledge – "from children's basic capacities to our scientific knowledge" – has the properties of being factive, non transparent, externally individuated and prime. I may also add that condition (v), that is knowledge as what is relevant in the explanation of assertion, does not belong to core knowledge and we still have the difficulty to make a clear distinction between what can be considered "full" knowledge with conditions (i)-(v) and aspects of knowledge that could be shared also with non human animals. The criticism to Kornblith about the inability to distinguish cognitive processing of non human animals and cognitive processing of linguistic groups seems to be an obstacle also to the foundation of core knowledge, until we can find a way to explain the links between core knowledge and linguistic knowledge (up to scientific knowledge)

The programmatic view is "to bring together empirical findings in psychology and the general conceptual features of knowledge." (Engel 2007: 69). Engel, attempting to bring together empirical findings and theory of knowledge, has left us, notwithstanding an appreciation of the main features of Williamson' theory of knowledge, with a strong doubt on the reduction of knowing how to knowing that. In the last paragraph I will try to explore the doubts left open to further research.

3. On the reduction of knowing how to knowing that

The debate on the reduction of "knowing how" to "knowing that" has actually taken the direction indicated by Engel, with two worries: (1) can a reductio based on linguistic data be applicable to a mental state which is not always conceived as linked to the use of language? (2) can the solution given by Stanley-Williamson answer to recent findings in pychological research?

Actually there is nothing wrong in using linguistic data; actually we use the term "Knowledge" mainly in knowledge attribution, therefore our way to use the word "to know" is of fundamental importance. The linguistic fact that knowing *where* to F or *why* to F or *when* to F or *how* to can be *defined* in terms of propositional knowledge seems unobjectionable. The "reduction theory" may express all those knowledge quantifying over places, reasons, places and ways (under some practical modes of presentation).[7] The linguistic evidence is apparent; any time we speak of knowing *where* or *when* or *how* we may "translate" this knowledge in term of "knowing that *x* is the *place* where...", or "knowing that *x* is the *time* when .." or "knowing that *x* is a *way of doing* things".

But there is a worry that remains unanswered: what about chicken sexers or, to give some more sophisticated examples, what about wine tasters or Balsamic Vinager tasters? Expert Balsamic vinager testers in Modena may say with a reliable degree of approximation in which kind of wood barrel and in which year that vinager has been staying in that barrel, going back to 10 years of different kinds of woods. However when asked to explain the way the do it, they seem unable to do it; they possess a practical ability to recognize good vinager, like chicken sexers have a practical ability to recognise the sex of chicken. But they cannot express this ability as " we know that *x* is a way to recognize chicken's sex" or "that *x* is a way to recognize the seasoning of the vinager". It seems that there is no recognizable "*x*", and yet we find it difficult not to attribute them some kind of knowledge.

The main worries the reductio has to face is – as it is clear in these cases – the over-linguistification of knowledge attribution, the relation between the theory and normal use of knowledge attribution and the relation with psychological data. A common feature of all these worries is the (old) problem of different intuitions we have in front of the same linguistic data.

One of the main criticism comes from a cognitive scientist, Alva Noë, and starts from a different interpretation of linguistic data: among the examples

[7] The first paragraph of Stanley 2011 is a synthetic and clear presentation of this strategy.

Stanley and Williamson offer in their favour Alva Noë reports the following: (i) If Hannah digests food, she does not know how to digest food, and (ii) If Hannah wins a fair lottery, she still does not know how to win the lottery. Are these cases where Hannah does something and yet we cannot say that she knows how to do it, as W-S claim? This is not so, as Noë 2005 remarks: digesting and winning a lottery are not intentional actions, but something that happens to an individual. We have therefore to reject the cases. However we might say that Hannah knows how to buy or eat food with a fork, and knows how to buy a ticket for the lottery; well these knowings *how* can be easily translated into propositional knowledge.

We are touching here the main core of the contrast on how to interpret the normal use of the term "knowledge". Stanley and Williamson maintain that their reduction does not imply that to engage into an action one must contemplate a proposition. To be ale to F implies knowing how to F and this implies knowing that x is a way to F under a practical mode of presentation, *without* be compelled to accompany this knowledge with a contemplation of a proposition. Noë remarks that there is no explanation of justification of this point, but a quotation from Ginet who claims that we may engage in actions (for instance opening a window) without entertaining the corresponding proposition. But this would amount to claim that "we do not have conscious experience of formulating propositions every time we act in ways we give expression to our propositional knowledge" (Noë 205:281). Saying that, Noë wants to distinguish between (i) which kinds of actions *constitutes* propositional knowledge and (ii) on the basis of which actions we *attribute* propositional knowledge. Certainly we attribute propositional knowledge to people on the ground of their answering our request ("please, may you open the window?") and there is no need to attribute to the performer a contemplation of a proposition such "I am opening the window" while doing it. Nobody requires that for an attribution of knowledge. But Ryle would say that knowing how to open the window is *constituted* by the individual ability to perform the action and not by any proposition.

Eventually we have reached the central point of the "reductio": the real target, as Noë (2005: 282) claims, is Ryle's identification of "knowledge how" with the possession of abilities or dispositions. Noë 2005 (284-5) devotes some effort to explain that abilities are embodied and situated, and their capacity to detect significance, where there would be otherwise none, makes it reasonable to consider practical abilities as a kind of knowledge. Accepting the reductionist theory would makes a mystery on "why embodiement and situation should or could be as important as they are". He insists in claiming that at

a some point "it must be possible to give possession-condition for concepts in non-conceptual, and so non-propositional terms. For example, my grasp on [sic] the concept *red* probably does not consist in my knowledge of propositions about redness (...) My grasp of red consists, it is more likely, in my dispositions to apply *red* to an object when it exhibits a certain quality" (285) I wonder which is the difference between humans and non human animals on this level; parrots can be taught to have dispositions to apply *red*, and even to say "red", in front of objects with a certain quality.[8] Do they have the same concept of "red" as we humans have?

Let us skip over this dubious identification of "grasping a concept" and "having a responsive disposition", and let us go to the main challenge to Intellectualists presented by Alva Noë. The challenge is the following: can the intellectualist show that "having the ability to do something does not consist in knowing how to do it"? If possession of abilities is a matter of knowledge-how, then, Noë argues, we have a conclusion opposite to intellectualists: "All knowledge that depends and must be analysed in terms of more basic knowledge how." (286)

Stanley 2011 gives same arguments against the idea of identifying "being able to do it" and "knowing how to do it": they are different matters: "being able to do something and knowing how to do it are certainly not the same"; besides, knowing how to do something, although often is *de facto* connected with ability to explain how to do something, in principle is not directly connected with knowing how to explain. What is required is only to express such propositional knowledge; but propositional knowledge does not require a over idealization and linguistification of knowing how: "the 8 year old Mozart can assert the proposition that constitutes his knowledge how to compose a symphony; he can just say, while composing it, the German translation of "this is how I can do it". (p. 10). Propositional knowledge does not need to be expressed in purely descriptive terms; it may be given also with demonstrative and indexicals. The existence of a radical distinction between being able to and knowing how to implies that possessing an ability or a disposition does not amount to knowing. You may have an ability without knowledge. Stanley reports some complicated examples to show that intentionally performing an action does not amount of *knowing* how to perform it.

[8] I am referring to the well known argument by Brandom. Sellars' ideas are developed by Brandom, who insists on the difference between "responsive classification" (parrots can do it) and "conceptual classification" (Brandom 1994: 88-89; 122)

If we accept this line of thought, Alva Noë conclusion does not follow. First: the reduction of "knowing how to F" to "knowing that *x* is a way to F" (under a practical mode of presentation) does not exclude that "knowing that x is a way to F" is always grounded on practical abilities; if we want to distinguish practical abilities from proper knowledge we may well accept that practical abilities are "situated" and "embodied"; they are the ground on which we may be said to know how to do things, that is to know that there is a way to do things. We may have the abilities to do something and we cannot know how to do it; for instance if we acquired the abilities by chance; but also the contrary happens: we may know how to F without having the abilities that we might have lost with age – I know that :).

Summarizing the basic point: possession of abilities and dispositions is a prerequisite of knowledge, like the possession of a reliable visual system that detects a particular spectrum of wave lengths is a prerequisite of the concept RED; but the possession of the concept RED is not identified in the responsive disposition, because grasping the concept requires our mastering the use of the concept at least in the network of the logic of colors (red is a color that is different from blue). In the same way knowing how to do it is not indentified with the abilities we have in doing it.

If we agree that knowing how is *definable* in term of propositional knowledge (plus a practical MOP) we might also agree that "it would be odd to maintain that ascription of knowledge-how are less than fully propositional" (Stanley 2011, p.7); however– in the new framework – there is a very delicate point: the point is that ascription of knowing how are *not less*, but *more* than fully propositional; that is knowledge how is knowledge that *x* is a way to F... *plus* the requirement to have a practical mode of presentation of *x*. But this is another way to make a difference where we were brought to believe there is none (maybe also for this it may be called a "Pyrric victory").[9] If every knowledge has special modes of presentation, but only a particular knowledge has a practical mode of presentation, why don't you call this kind of knowledge "knowing how"? It would amount to a redefinition of knowing how after

[9]The term is used by Brown 2013 in the context of comparing propositional knowledge as a more general concept in respect of declarative and procedural knowledge. I don't discuss the topic, because the old contrast between procedural and declarative, born in computer science, seems to me a source of confusion. On the one hand the two ways can be translatable one into the other; from this point of view there is no much difference between a procedural or declarative explanation about where Central Park is: "it is in New York near 5thavenue" (declarative) or at "go to New York and take 5th avenue and you find it". On the other hand a procedure (with respect to a function) may be a perfect explanans of a practical mode of presentation, as Pavese (forth.) has suggested.

having destroyed the old fashioned view according to which there is a sharp division among the two kinds of knowledge. As Engel suggested, the distinction is fuzzy: we may always *express* every kinds of knowledge attribution as knowing *that*, and some kinds of knowledge attribution as requiring a practical mode of presentation: these special kinds of knowledge are the heir of what had be once called "knowing how". This would be the most clear way to cut the grass under the resurgence of Ryle's Anti-Intellectualism. But...

...but a question of terminology is still open: what to do if scientists use the term "knowledge" for abilities and capacities to detect differences in the (natural or artificial) environment? Philosophers might fight against an improper use of the term, and insist on the difference between knowledge and responsive disposition; the diffusion of "knowledge terminology" in ethology, psychology and cognitive science makes philosophers uncomfortable; however what is relevant is to keep clear conceptual distinctions, and philosophers might do their job also accepting different uses of the term "knowledge".[10] Actually, nobody in cognitive science or in cognitive psychology uses the term "thought" as Frege used it, and we still are able to entertain discussions between philosophers and cognitive scientists.

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[10] "When philosophers use a word—"knowledge", "being", "object", "I", "proposition", "name"—and try to grasp the essence of the thing, one must always ask oneself: is the word ever actually used in this way in the language-game which is its original home?" (Wittgenstein 1953 §116). We have here a case where there is a new home for "knowledge"; the new home is the setting of scientific research. Here we may decide that there is a new concept with a new origin, or the concept "Knowledge" is the one we wanted to describe following its introduction in our community, and is changing under our eyes. But we might also take Carnap's attitude and call "knowledge1" philosophers' knowledge and "knowledge2" psychologists knowledge. Actually somebody has already done that differentiating "knowledge" and "cognition".

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