When Tacit is Not Tacit Enough: A Heideggerian Critique of Collins' "Tacit" Knowledge

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Abstract

Some of the problems that Harry Collins has faced in his general framework for theorizing tacit and explicit knowledge are, I will argue, due to an inadequate formulation of the problem. It is this inadequacy that has led to pseudo-problems regarding the 'tacit' in general. What-is-more, the vehicle for his theory as objectified in 'strings' is symptomatic of the problem that his division of tacit and explicit faces. I will argue that the philosophy of Martin Heidegger will give us adequate conceptual tools to re-think Collins' general framework, to help us understand the origins of these problems, and possibly indicate a way to solve them. To which ends I suggest that either the tacit Collins has in mind is either not truly tacit or it is not tacit enough.

Keywords: tacit knowledge, fundamental ontology, present and ready-at-hand, Harry Collins, Martin Heidegger

I

Harry Collins' work on tacit and explicit knowledge is part of a long heritage from the early schools of phenomenology (see Husserl 1900-1901; Merleau-Ponty 1945), social philosophy (see Polanyi 1958), and post-positivistic epistemology (see Dreyfus 1999). What I believe has hampered this on-going project which currently resides in AI projects is to frame problems of the pre-conditions for knowledge and language in a metaphysics that already presupposes how knowledge, language and inquirer already relate. A critique of this general model of reality is from Martin Heidegger's (1962) book *Being and Time* first published in 1927. Collins in his analysis of the

problems of socialization and knowledge takes on board an interpretation of this tradition but one that derives from analytical and not from European continental traditions.[1] In Collins' admirable attempt to give a formal account of different types of knowledge and the actions they allow, he is forced to the conclusion that explicit knowledge is the rarer condition and most of human life is conducted by tacit means. Collins' project of defending what is uniquely human to people, is itself quite Heideggerian, but his method of demoting the body and promoting, "society in the understanding of the nature of knowledge" is, for me, to hold one of several metaphysical divisions that will ultimately leave the problem of tacit and explicit knowledge unanswerable in its current form (Collins 2010, 8). The insolubility of this problem, as described by Collins is raised by Stone (2012, 2) where "Collins, most notably, argues that interactional expertise develops through a socialization process of linguistic immersion and that socialization, as such, is precisely this kind of black box that cannot be explicated." Collins at the same time tries to demystify tacit knowledge but in doing so sets up a mysterious transference process of knowledge and understanding. I believe this mysteriousness is one the resultant pseudo-problems of having a theory of tacit knowledge that is itself founded in knowledge and language. Rather what we should be looking for is the conditions that fore-structure knowledge and language, which is found in Heidegger's notion of "Being-in-the World".

II

Before we get to how Collins' general framework generates its own problems I will spend a few moments unpacking and explaining the terms I will be using. Firstly, Collins identifies problems with how the "tacit" has been discussed, confusions over definitions and its uses. He settles on Polanyi's definition that "we can know more than we can tell." (Collins 2010, 4) Collins tells us that he wants to "reconstruct the idea of tacit knowledge from first principles so the concepts disparate domains have a common conceptual language." (Collins 2010, 2) He then gives a three-fold classification of "tacit knowledge", which is loosely defined as that which cannot

be explicated, however, as we will see there are exceptions. In order of how difficult they are to explicate Collins ranks "relational tacit knowledge" (RTK), "somatic tacit knowledge" (STK), and then "collective tacit knowledge" (CTK) (Collins 2010, 2-3). *RTK* is knowledge that is tacit for no deep reason but its tacit-ness rests upon social contingencies, *STK* is brain-body limitation of humans which can in some instances be replicated by machines and animals, lastly *CTK*, which is what Collins takes to be the truly tacit. CTK could be a shorthand term for "socialization", and as language users, who interpret their surroundings, we acquire knowledge through some sort of osmosis that *has yet* not been defined. This is not to say in principle it cannot be defined but only as of now we have no means for replicating it. The idea of understanding/action replication is important for Collins as it is also a delineator of the explicit/ tacit divide. Collins picks out two types of actions as being relevant "mimeomorphic" and "polimorphic" (Collins 2010, ix). The difference being that mimeomorphic actions require RTK and/or STK, this is a strictly mimicked action which carries none of the meaning or understanding it would if performed by a human. This could be a parrot talking or a computer generated response. Polimorphic actions can only be accomplished with the addition of CTK. For example, riding a bike can be mimicked by a robot but "bike riding" is a uniquely human activity as it only has significance for people who also understand, leisure activities, highway codes, environmental issues, social norms and so on. None of this can be gained from RTK or STK, which is what makes CTK so problematic. Collins ties together the notions of tacit and explicit knowledge, mimeomorphic and polimorphic actions by way of "strings" and "string translation". Strings are "bits of stuff inscribed with patterns" whereas language takes place when those marks are interpreted (Collins 2010, 9). Strings can undergo a physical transformation, that by reading those marks out aloud, which convert to sound, which then act upon someone's ears, the receiving person interprets those sounds as words and through a further transformation-translation makes sense of those words. Those things that allow strings to be transformed and translated are explicable. Where knowledge of the

transformation-translation process is unknown knowledge remains tacit. It is important to note that strings for Collins are abstract, meaningless, inert bits of potential information.

Summaries of Heidegger's work are not easy and will necessarily leave out details but within the confines of this paper I will attempt to explicate what is most important to this thesis. First and foremost Heidegger's philosophy is based upon a core distinction between "beings" and "Being", or ontological difference. Humans have the unique ability to realise both, that we are indeed "beings" (objects) but we also reflect on our existence as a potential. Our ability to do this comes from our awareness of our Being. From this fundamental condition we can acknowledge that we exist in a way that no other being does, or real terms, matters. Here "Being" is not a thing, object, or mental state. What-is-more, the grounds for having "beings" are founded in our "Being" (Heidegger 1962, 33-34). This makes Heidegger's philosophy an ontological one, which he finesses with another distinction. When we speak about "beings" (objects) we are discussing regional ontology, such as, the things that make up our daily experience. When we discuss "Being" (non-object) we are discussing the very possibility for things to show themselves as things, this we call fundamental ontology. The crux of Heidegger's critique of Western philosophy and most thinking in general is that we are constantly getting this order mixed up. We account for "Being" in terms of "beings" (atoms, DNA, mental states), and we discuss regional ontology (equations, scientific laws, theories) as if it were more basic than fundamental ontology (that which allows beings to show themselves). To demonstrate ontological structure Heidegger uses two ways of relating to the world. He calls these "present" and "ready-to-hand" (Heidegger 1962, 98-103). The present-at-hand is when we are able to reflect, theorise or abstract not only ourselves but the world around us into categories, propositions, or principles. The ready-to-hand is how we are ordinarily in the world in that we use it with no intentional thought. The present-at-hand calls the world to our attention from which we can inspect and objectify it. It highlights the regional ontological structure of our worlds. The ready-to-hand is the opposite, here the world is invisible to us

as we are so familiar with our surroundings and how we should be acting. In making the world more present or distant it also makes our Being more present or distant to us.

What the present and ready-at-hand reveals or hides from us is our "Being-in-the-World". Heidegger means this in a very specific way. We belong to our worlds. World in this sense is not a thing, a place, or location but what structures our experiences. This relationship is circular in that because we aware of ontological difference we as "beings" can relate to ourselves and the world through the present or ready-at-hand which in turn reveals or hides our "Being-in-the-World" which is predicated on the awareness of ontological difference.[2] It only against the backdrop of ontological difference and "Being-in-the-World" do we get to experience things as things in the first place. As with the reversal of ontological order Heidegger suggests that due to the success with which the present-at-hand perspective has allowed and the ease with which we speak about things, we now take it to be more fundamental than the ready-to-hand. That our average state of involvement with the world is explicable from an objective basis which requires the present-at-hand. In the terms of this paper we can identify "explicit knowledge," and "string translation-transformation" with the "present-at-hand" and we can identify Collins' form of "tacit knowledge" with the "ready-to-hand". What Collins seems to have no analogue for is "Being-in-the World" which is dependent upon ontological difference. He does not appear to have a way of fore-grounding or pre-structuring understanding as we get with fundamental ontology. His entire argument appears to be conducted at the level of regional ontology, i.e. strings, language, intentions, cultural norms and so on. He never makes the move to fundamental ontology as his framework prevents this from being an option. Or, put another way, his "tacit" is *regional* tacit-ness (could be but has not yet been explicated), not *fundamental* tacit-ness (is not a thing to be made explicit). As Collins' theory is not ontological but epistemological "tacit" appears to be as yet unexplicated knowledge. What I would like to say is that "tacit" is not "knowing" anything at all but it is the condition for knowing something, it is the condition for making something explicit.

So with our terms defined next I will present Collins' general theory and framework and then try to identify where the pseudo-problems are created and how using Heidegger we might resolve these problems. I do not hope to be able to give a solution to what Collins calls the "socialzation problem" but only show that this form of the problem is irresolvable as it is (Collins 2010, 7; 81; 89; 149).

III

As mentioned Collins' idea is very Heideggerian in nature but I think it succumbs to the same problems that Heidegger diagnoses with Western metaphysics. In mapping out the concepts to be used and how they are deployed we may already see a similarity in projects. What Collins wants to get at in "tacit-ness" or "that which can not be explicated" is echoed in Heidegger's notion of "Being". The crucial difference is that for Heidegger Being cannot be explicated because it is not a thing, one may talk about it as we are doing now but that is only to relate to it through the present-at-hand. Being is not an object or quality that is possessed by the person it is a lived-relation structured by the world. In contrast two of Collins' "tacit" forms (RTK, STK) cannot only be spoken about but can be known, and the third (CTK) is some sublimated process which, in theory, is not impossible to know. Lowney (2011, 20) criticises Collins conception of the "tacit" by arguing for a distinction between ineffable, the tacit, the explicable, and the explicit. His worry is that "the tacit runs the risk of collapsing into the ineffable, i.e., that which cannot, in the strongest sense, be put into words or modeled...the ineffable drops out as a supplementary nothing or nonsense." We can arrive at this by having the entire argument remain at the linguistic or epistemic level. Here we can argue over how anything can be known at all if any knowledge is in some sense tacit. A brief point that I do not have space to develop is that binary of tacit-explicit. If we understand that one receives its meaning by standing in relation to the other, that the tacit is somehow the absence of the explicit, we can see the whole project set up as a metaphysical question. Heidegger (1978/1929) gives a more

fundamental formulation of this question in *What is Metaphysics?* where he tells us that science is concerned with "beings only, and besides that – nothing; beings alone, and further-nothing; solely beings, and beyond that – nothing." (Heidegger 1978, 97) Heidegger then raises the point about how we know about this "nothing" if it is truly "nothing"? He then goes on to argue that the logical form of negation is rooted in the nothing rather than logic being primary (Heidegger 1978, 107). I think both Collins and Lowney suffer by this that if both tacit and explicit are just states of knowledge, something that is not knowledge (or even a thing) is a negation of the tacit-explicit. Rather Heidegger wants to tell us that this way of thinking is itself rooted in the "nothing" which is an ontological condition not epistemological.

The extent to which Collins project is metaphysical is illustrated by the analogy Collins gives:

> CTK, or, more properly, the idea of the social that underpins it, is like Newton's idea of gravity—you can't see it, touch it or smell it and it is a kind of mysterious action at a distance, but it still has consequences. Maybe we now understand gravity as curved space-time (or maybe we don't) and maybe one day we will understand the social. (Collins 2011, 40)

If the analogy is that the "social" is like gravity, then following Kuhn (1970) there is a sense it is paradigm dependent. That is, we have had different theories and understandings of gravity, which may or may not be correct but it has "real" consequences that we measure. Those "real" consequences and particular measurements are themselves also paradigm dependent. We interpret phenomena (beings) through paradigms which is only achievable due to ontological difference (beings-Being). So what falling objects or certain measurements meant for Aristotle are different for Newton and Einstein. We could understand this difference as a product of epistemological frameworks or linguistic variance but what that misses is how all phenomena, including ourselves, are interpreted through the World/paradigm/tacit which supplies us with what can and cannot be meaningfully considered. This may help us make more sense of Polanyi when he says, "explicit knowledge must rely on being tacitly understood and applied. Hence all

knowledge is either tacit or rooted in tacit knowledge." (Polanyi, 1969, 144) That is, in order for any knowledge to become explicit it must first be structured in and articulated by the world. The traditional approach to this is to start with beliefs, mental states or knowledge and then track how we act on those beliefs which informs what is rational and so on. The Heideggerian analysis suggests that we start with people born into a world that is already meaningfully interpreted for them. We then become familiar with the tacit of the world telling us what it is like, and similarly the feeling of alienation or disenchantment when our ways of living are no longer supported by the world. Once we are in a world, where all things have their place can we then begin to explicate, which is the starting point for anyone that wants to begin with beliefs or intentional states. Beliefs are not about intentional states or neuronal activity but are "about" the world. Beliefs come from and are directed at the world. This maybe the world of things but what we understand those things as comes from "Being-in-the-World" which is itself not a thing. What any explicit systematised body of thought tries to do is reverse this understanding, that we exist like those things and their meaning is self-evident. That we have to work from the world of things back towards ourselves and understand ourselves in terms of whatever dominant school of thought is in fashion. In the terms of this paper we may say that explicit knowledge is a present-at-hand account of reality (any systematised body of knowledge), which tries to convince us that this perspective is fundamental to understanding ourselves. Instead, the more frequent CTK, which Collins struggles to formulise, is an example of the ready-to-hand, both of which require "Being-in-the World".

If Collins thinks there is no reason why potentially the "social/ tacit" could ever be explicated, I am suggesting, either the tacit he has in mind is not tacit enough or he is mistaken in thinking that the tacit is, even in theory, is explicable. Here I would prefer the term "un-explicated" as this implies potential explication. This is the conclusion I wish to draw but lets see how Collins gets to this stage where the "social" is a mysterious background force like gravity, which may be explicable given

future advances. The term "tacit" in modern philosophy comes to us from Michael Polanyi and it is Polanyi's lead that Collins follows when conceptualizing the tacit. I do not have the space to establish any causation but there is evidence to suggest that Polanyi's understanding of Heidegger comes solely from William Barrett's (1962) *Irrational Man* which, like Dreyfus, comes from the Anglo-American reading of the existentialist movement (cf. Stone 2012).

If Polanyi's reading of Heidegger is via Barrett and Collins reading of Heidegger is via Dreyfus, Collins' notion of the tacit is partly a reaction against Polanyi's notion of the tacit which is influenced by Barrett's interpretation of Heidegger. In *The New Orthodoxy: Humans, Animals, Heidegger and Dreyfus* (2009) Collins re-describes Heidegger's main critique of the difference between humans and non-humans but instead of using "ontological difference" Collins calls this "'whatever it is' *socialness*" (Collins 2009, 77).[3] Collins' sees those mentioned above as favouring the corporeal body of the individual over the omnipresence of sociality and culture. On his reading he would be right as his understanding comes from a line that either did not read (as far as we know) Heidegger directly or did so through the Anglo-American lens, which itself supports a particular metaphysical worldview.[4] I also suspect that Collins' understands Heidegger as offering a theory of psychology. That the self-aware, present-to-hand and unaware, ready-to-hand states are comments on cognitive and bodily performance (Collins 2009, 79). What is missed is that Heidegger does not offer the present/ready-to-hand as a psychological theory but as ways of uncovering the ontological structure of Being. They are not about epistemology but fundamental ontology. Despite this Collins quite rightly, goes after the transparent "glass of the social" that has hampered the AI project, the boundary limits of the social sciences and gives the natural sciences its totalizing epistemology (Collins 2009, 76). This convoluted path means that we end up with a notion of tacit that does not break with he Anglo-American existentialist tradition. This goes some way to explaining why his tacit is not truly tacit.

Keeping this in mind I will next look at Collins' vehicle for explication via the medium of "strings". In wishing not to

keep this "bodily" image of tacit knowledge alive, which for Collins is a messy mish-mash of RTK, STK, and CTK, he has to find some mechanism, which is not dependent on individuals or practices involving "embodied knowledge". As Collins (2010, 135) says, "not every individual needs the typical body in order to draw on collective tacit knowledge. This is because collective tacit knowledge is, to a large extent, located in the language of the collectivity rather than its practices." His solution to this is via the information transfer of strings and the mimetic and polymorphic actions they can represent. For Collins strings are just "bits of stuff inscribed with patterns" that have no inherent meaning. Collins invents the concept of "strings" to avoid the "freight of inherent meaning that makes the notions of signs, symbols and icons so complicated." (Collins 2010, 9) For Collins "a string is just a physical object and it is immediately clear that whether it has any effect and what kind of effect this might be is entirely a matter of what happens to be." (Collins 2010, 9) Strings come in analogue and digital form and can be changed. Tacit knowledge is that which cannot be transformed from one string to another. Those which can conclude in some understanding or knowledge, they have become explicit. There are things such as animals and machines that can convert strings, e.g. a printer converts (translates) electrical signals (string) into commands for printing corresponding dots on paper (string). The printer does not understand what it has done and so does not posses knowledge, tacit or explicit. This would be an example of a "mimeomorphic" action, that is, a machine can replicate the actions of a human that can draw, write, or take photographs. A string that can undergo a translation-transformation process, and be understood by a receiver is the process of making knowledge explicit. So what are strings? "Strings are never meaningful" however, we routinely use strings as if they were meaningful; that cookbook contains instructions for cooking a meal or that a photograph is of a particular object or person (Collins 2010, 34). The mistake that Collins believes we are making is that we are confusing a physical object (string) for something that is meaningful to us (string translation into another string of cookery instructions). In the case of the photograph, we are confusing a collection of

dots (string) for an object or person we recognise (translated into a string of sense-memory). As Collins writes, "this book in itself contains strings, not language; therefore it does not in itself contain knowledge" (p.45). For Collins the danger is that if we think of objects or actions as being inherently meaningful, we can confuse RTK and STK with CTK, and mimeomorphic actions with polimorphic ones. Only two of these are truly tacit, CTK and polimorphic, and it is only humans that can exercise them. The resultant danger is that if we view mechanical or animal actions "as if" they were tacitly socially meaningful in the human sense we may begin to interpret ourselves "as if" we were only machines or animals.[5] Whilst I agree with his sentiment, I think Collins is unable to access that which is special to humans, and ultimately falls back on to ambiguous or vague statements condensed in the phrase the "social problem". Why this might be a problem for a Heideggerian is for at least two reasons. Firstly, If we hold a metaphysical model of reality in place that allows us to posit objects such as strings that exist independently of meaning, language, knowledge or people, any conception of the tacit that we may develop from it will not encompass the ability to develop such a model in the first place. Secondly, if we cannot access the tacit in this form, not only will their be a lot of wasted time and effort into AI projects but if we cannot adequately theorise that which is unique to humans all our attention is misdirected to giving a proper formal account of the "tacit" as if it were a thing that could be theorised. If we align "tacit" with "Being" we would understand that they are both pre-theoretical. Both "tacit/ Being" are the fore-structuring of understanding, they are what precede knowledge, language, or existence.[6] This misdirection covers over the important aspect of ontological difference which for Heidgger is the first step to forgetting the meaning to the question of Being. Once we accept that this questions is nonsensical resulting from the inappropriate conceptual tools with which we framed it we then begin to lose what is uniquely human to us, the ability to interpret ourselves.

Next I will explain why for Heidegger something like "strings" cannot be our starting point for understanding the tacit. I will then map over Collins "explicit-tacit" on to

Heidegger's "present-ready-to-hand" and then finally show that what is lacking in Collins general framework is an analogue for "Being-in-the-World". Due to this Collins' theory remains epistemological, but as the truly tacit is pre-epistemological it requires a fundamental ontological inquiry.

IV

What is clear is that Collins is able to separate "knowledge," "language," "practices," and "meaning" from people and the world. His mechanism for doing this is through the string translation-transformation process. We start off with strings, which are just meaningless bits of stuff, and through skilful interpretation we extrapolate meaning. What separates humans from computers (so far) is that the tacit knowledge that is conveyed in social settings means we can demonstrate a fluency and understanding which could not be gained by mere replication. A Heideggerian response to this would be, that we can think about the world as if it were made up of distinct objects, that can exist in isolation of meaning or interpretation, for this is what the sciences attempt, but the mistake is to think this view is fundamental. Collins' description of information exchange via strings is what I would identify with Heidegger's "present-at-hand". That it is an abstract, theoretical, objective account of a process. In short explicit knowledge is the "present-at-hand". The binary to this is the messy socialness, or polymorphic actions can be associated with the "ready-to-hand". Here we are immersed in our worlds, getting on with things, navigating our way intuitively. Here tacit knowledge is the "ready-to-hand". For Heidegger both of these ways of interpreting the world are "correct" but one is not to be made dominant. They are just different ways of interacting with the world that could lead one into the ontological investigation of Being. One way of interacting Heidegger did take to be more fundamental based purely on everyday experience, is that for most part, we are "ready-at-hand". This echoes Collins concern that the majority of human interaction is tacit. What Heidegger means by this is that for the most part we just use the world around us, we do not

deliberately think about walking, breathing, negotiating the high-street, how to act in a shop and so on. We just do it. For Collins some of this can be explained by RTK and STK (walking and breathing), high-street negotiation and shop etiquette would be CTK and much more difficult to model. The problems start when we appreciate that the ready-to-hand (tacit) is how we are the majority of the time but then try and offer a present-to-hand explanation for it. This is what Collins is attempting with his notion of strings and how they are set up in the world, that we can move from a present-at-hand through the ready-at-hand, which if successfully explicated returns us back to the present-at-hand. Collins theory as it stands is all about epistemology, how do we know *x*? How do gain knowledge of *x*? If I am metaphysically constrained by epistemology I can only defer to language and some mysterious osmosis of knowledge through contact with a society. What Collins is prevented from doing is starting from a position of ontology as he has no analogue for Heidegger's "Being-in-the-World." Another consequence of presuming the present-at-hand to fundamental in explanation is that it carries with it a totalizing effect. That Being is reducible to beings. Collins has a sense of this when he writes, "string transformation and mechanical cause and effect are, to speak metaphysically, just two aspects of the same thing. This is why we have a strong sense that when we explain some process scientifically we have made it explicit; this is the "explicable" part of the antonym of tacit with its "scientifically explained" connotations." (Collins 2010, 50) Yet what has been made explicit is knowledge of our regional ontology. These change but by giving a place name as opposed to a real name to the things that make up our world it appears as if strings can help us explain how knowledge becomes explicit. For example to think that there was once a string that said the universe was slowing down in expansion, but now we have strings that say the opposite. What happened to that old string? Again we might tie ourselves up in pseudo-problems trying answer questions about where strings go if they are not believed or used anymore.

This leads me to ask, are strings really necessary for explicit knowledge? Did we need strings in order to posit

strings? What prevents a Heideggerian from conceding that strings are essential for knowledge, meaning or language is that any theory or model we have of the world and our place in it is given to us by already "Being-in-a-world" that is interpreted for us. It is nonsensical to speak about objects as being uninterpreted or independent of meaning because to view the world like this is to already be in a relationship with it so as to be able to decontextualise it into contents or its aggregate bits. It is an oxymoron. It might be that Collins does not mean "meaningless" in the strong sense as devoid of any comprehensible quality, for if he did, strings would not be obvious as an explanation. True meaninglessness is to be separate from history and culture. There is a weak meaninglessness such as "jbsd%k8vb" but even this has a context and for Collins this could be subsumed by RTK such that just because I do not understand it does not make it devoid of meaning. The fact that it even appears to me as meaningless means it has some cultural, social currency. True meaninglessness is indistinguishable from the absence of something. Prior to Lavosier and Priestly no one had thought of "oxygen" not because it did not exist but because it meant nothing. Putting "oxygen" in a time before its discovery, apart from being anachronistic, shows how the world structures its meaning for us. The discourse, ideas, theories, ways of acting, and so on had not taken shape before the discovery of oxygen so it is not that no one had reason to express thoughts or opinions on oxygen (even if hypothetical) but that it could not be expressed. It is this same internal logic that is at play in calling "strings" meaningless or uninterpreted. It takes a very specific historical metaphysical worldview to conceptualize the world as made up of such things. Without something like Carteisan subject/ object division, or present-at-hand perspective, and the realist/scepticism problems it generates, the whole problem about how my mind gains true knowledge of the outside world, through language and experience would not make sense.

For Heidegger "Being" does not make sense unless it is contextualised with "Being-in-the-World". Both "Being" and "World" are for Heidegger not to be confused with "beings" and "Earth". Neither "Being" nor "World" are things. "Being" is

what grounds "beings" and "World" is what fore-structures our experiences. Both of these are what we would call the truly tacit. They are not propositional but non-propositional, they are not theoretical but pre-theoretical, and they are not ontological but pre-ontological (Heidegger 1962, 8-9). They are the conditions for knowledge not knowledge itself, knowing is a "founded mode of existence" (Heidegger 1962, 86). Stone (2012) tries to show "how it is possible to reflect on one's own pre-understandings such that one can see that and how one's understanding is structured, how one can then change it, and one can see how that pre-structuring is operating in the thinking and in exchanges with one's collaborators" (p.14). How successful that would be I am not sure as "Being" and "World" hold a counter-intuitive relationship with one another. We do not want our Being or World to be an issue for us else we would not be able to achieve anything. Heidegger suggests that the majority of us live in "flight" of our own Being or existence (Heidegger 1962, 40). That is, living and interpreting ourselves in full understanding that we will die. For Heidegger it is this possibility that means we can choose to "Be-in-the-world" authentically or inauthentically. What these mean will not concern us as it does affect the overall argument, needless to say that, it highlights for Heidegger the existential-ontological structure of Being and the World. When neither of these are an issue for us they are invisible but it is this "familiarity" or "comfort" with our surroundings which does not force us to reflect on them we are coping at our very best. Everything makes sense, we know how to conduct ourselves, and our understanding is such that both the World and our Being disappear. We do not see the world as a spatial location full of distinct objects but a "totality of references" where we use it as a series of "in-order-to's" which ultimately refer back to our own Being (Heidegger 1962, 107). For example I do not see a car which requires x amount of procedures to operate, I use it "in-order-to" get to work, "in-order-to" earn money, "in-order-to"…etc. The end of this process will usually involve my happiness or wish to accomplish something, be it authentically or inauthentically. It is when we cease to be at home in our worlds that this relationship becomes fractured, everything

becomes present-at-hand to us, there is no longer a "totality of references" but individual events, and dislocated objects. The World and our Being become very present to us but not as a something familiar as a series of "in-order-to's" but something that no longer makes sense. This we would commonly refer to as an existential crisis, where our existence (who and what we are) and what are worlds are made up of (cars, jobs, money) come under question.

Even though this maybe a dramatic example, the pre-condition for any knowledge, whether it is self-knowledge, or systematic inquiry such as science requires that Being be hidden from us. When science begins to question the assumed basis for the reality of its objects (aether, philgoston, strings) it begins to descend into crisis. Those objects no longer hold the same meaning in relation to a totality of references that they once did. As I have been arguing whilst we maybe able to pair up present/ ready-at-hand with RTK, STK/ CTK. In order for Collins to produce a framework that has strings, language, knowledge and meaning all separated out is to have already closed over what is tacit. This is the paradox with asking such a question about what the "tacit" or "Being" is. Once you understand "Being-in-the-World" as the pre-condition for knowledge you realise any answer you may give to what is tacit/Being can only be in terms of things (beings) or what can be known or spoken about. Tacit/Being is not a "what" but a "how", which can only be identified by people's involvement with the world. Lowney (2011, 31) tries to offer a solution in "practical wisdom" and "phronesis" but where they both get it wrong is in keeping the problem of tacit knowledge as a product of language or epistemology. Lowney writes,

> "Collins wants to look at what knowledge is apart from what it is for human knowers (TEK, 6), and he believes that Polanyi made the mistake of making knowledge too personal. But although knowledge may be held collectively in language, it is developed and affirmed personally and there is no knowledge without an interpreter. Knowledge, though objective, is intrinsically dependent on meanings and personal judgements." (Lowney 2011, 33)

A Heideggerian response to this would be that you cannot have knowledge without a person, and you can not have a person

who would exercise that knowledge as meaningfully understood without a world. World here is what is tacit. Neither language nor knowledge can remain in absence of a world through which it makes sense. Tables, chairs and computers do not have worlds (Being) they are of the world (beings). They do interpret themselves through their daily existence. We could set it up so that a computer could appear to mimic self-interpretation and acquired learning but its own existence would not be a problem for it. Humans naturally interpret themselves in terms of the things they are surrounded by. We have, especially with the aid of science, no problem in understanding ourselves as if we were things, existing in a world like everything else. What-is-more, due to the productive success of this worldview we take abstract equations, objective measurements and the like, to be the origin of technological and epistemological advancement. Due to the success of this present-at-hand account of seeing everything explainable in terms of beings it is not difficult to take this mode of understanding as being primary, or how we "really" are in the world. Here we understand CTK or ready-to-hand as the derivative state and it is that which actually needs to be explained. What this does is by-pass tacit "Being-in-the-World" which is how we always already are and then begins our inquiry with a metaphysical problem which requires a highly specialised and contrived worldview to even to be able to consider "what knowledge is apart from what it is for human knowers". (Collins 2010, 6)

While this might all appear highly abstract it seems to have real world consequences for how we theorise about knowledge relations and ourselves. The project of Artificial Intelligence (AI) has had to shifts its goals over the past thirty years what the Heideggerian approach has to tell us is not that (AI) is impossible but artificial human intelligence is impossible. Human creativity and ability to found knowledge starts with the fundamental ontological distinction between Being and beings. There is nothing to prevent us from forgetting this distinction as Being activity looks to hide. Where we start to interpret ourselves in terms of objects and derive our Being from beings such as the brain understood through the metaphor of computing or humanity in terms of capital,

productivity or efficiency, here we start to forget the question concerning the meaning of Being. If we ever fully accomplish this we can not only replicate human intelligence but exceed it. Given the right neural nets, feedback systems, and so on we could create a machine that lived, learned and understood the world as a human did. It would not be that machines and technology had improved but that what it was to be a human had diminished.

V

Under my Heideggerian analysis I have argued that whilst Collins' project is indeed very Heideggerian he has by way of a particular interpretation of Heidegger has been forced to conceive of the "tacit" as something still essentially epistemological. It is Collins' inability to break from regional ontology (the things that make up knowledge), which keeps the problem of the "tacit" as one of epistemology rather what foregrounds epistemology. I have argued that his mechanism for conceptualising tacit and explicit knowledge is inadequate in the form of strings. By making "strings" the vehicle for explanation Collins achieves a number of things. Firstly, it presents a present-at-hand account as being dominant over the ready-to-hand. Secondly, it utilises a metaphysics that hides the ontological structure of "Being-in-the-World", and thirdly, due to the conditions of his framework it produces a number of pseudo-problems that in its current form is ill-equipped to resolve. We have the present-to-hand accounts of RTK and STK and we have the ready-to-hand of CTK. Collins identifies RTK and STK as examples of explicit knowledge whereas CTK is what represents tacit knowledge. These for Heidegger, however, are just ways of relating to the world, and what is more fundamental is "Being-in-the-World". It is not only that Collins has no analogue for this concept in his theory, but as his starting point is to give a present-at-hand account of the tacit, this ultimately makes his theory epistemological and not ontological. In absence of a fundamental ontological explanation Collins cannot give an adequate basis for the truly tacit.

NOTES

[1] Collins alludes to this elsewhere when he states his "knowledge of Heidegger is minimal" and any understanding he has is of "Dreyfus's Heidegger." (Collins 2009, 75)

[2] This is issue is never resolved in Heidegger and by the end of "Being and Time" one has a sense of how the transcendental becomes historically embedded. To this end interpreters of Heidegger have been divided about what is more important, his transcendental phenomenology (Cromwell and Malpas 2007) or his historical hermeneutics (Kisiel 2002).

[3] Emphasis in original.

[4] My own reading of Heidegger is within the European, continental, post-positivistic tradition but even so I do not see Heidegger favouring the individual. Indeed he argues against it as an inauthentic representation of the individual by 'the-they'. It is how 'the-they' would describe what Heidegger is saying.

[5] This bears another similarity with Heidegger and the thrust of his essay "The Question Concerning Technology" (1954).

[6] Existence here refers to 'beings'. Being is what allows beings to be known.

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