TALKING TO BOTH SIDES

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Talking to both sides

1. Introduction

The 'explanatory gap' (Levine 1983) refers to a gap between physical and phenomenal explanations of consciousness. I wish to show that we can take the gap on board and still go on to develop an explanation or model that is aware of and refers to both sides of this gap, similar to Varela's Neurophenomenology(1996). Also such a model may refer to both sides via the postulation of a descriptive instrumental variable without the need to postulate another ontological category beyond the mind's and brain's identity (Levine 1983). The variable's values will be determined by both first and third person data working in unison. Attributing consciousness to agents is done through an adaptation of Dennett's *Intentional Stance* (1981). However, proposing such a model and in my use of first person data to facilitate this, Dennett will be my chief opponent, so his objections to such an approach will receive the most attention.

2. The explanatory gap

The explanatory gap is just that; a gap in explanation. There seem to be two sides or possibilities for explanations of consciousness, which are often considered to be at odds. That is there are third person objective theories and explanations and then there are first person subjective understandings. I do not think that these two should be thought of as at odds but I do think there is a substantive and fundamental gap between them. This is an epistemic gap in the way we come to know both sides (Levine 1983, 2001). The first person is immediate, in many ways private, includes characteristics such as agency and subjectivity; and generally speaking is itself conscious. These are all characteristics that are not found in third person theorising, though they may at best loosely describe these traits. This difference, between first person appreciation of a situation and that which can be arrived at through third person means, is made vivid by Tomas Negal (1974) when he demonstrates that *we* will never "know what it is like to be a bat".

This gap between understandings can also be viewed as being analogous to and consistent with the problem of other minds, that is that we are shut off from knowing directly the content and experience of other people's minds. It seems that this is a necessary, intrinsic, product of agency. The only means we have at our disposal is to infer that it is the case that other people think in a similar fashion to you, it is not possible to deduce this (Van Gulick 2006).

Given that we have this explanatory gap and that we still want an explanation of consciousness, where do we go from here? I think that we should be able to develop a model that explicitly refers to both sides of the gap, taking as much information about first person experience as we can get on one side and third person findings and theory, on the other. Only by utilizing both sides together can we hope to achieve an understanding of consciousness that is in any way full.

3. Developing a model

In developing an explanatory model, are we not losing the very thing that this model sets out to include, i.e. the first person side? To some extent yes, in that once in the public domain of the model, the aspect of experience is lost. This is why we have to discuss consciousness in the public domain as an instrumental variable. And no, to the extent that the model I advocate is explicit about inclusion of a subject with experience there in the experiment. The experience is still there, it is in the subject.

This variable should represent consciousness, and correspond to instances of personal consciousness experienced by a subject and also the sub-personal events going on in that subject.

So what we need for explanation is a bridge to get us from the vocabulary of thought to the vocabulary of the physical. This may be done by simply stipulating one as a variable (C), whose purpose is to act as an explanatory tool in moving between vocabularies. The C variable changes according to what comes down to two inputs: - phenomenal first person data, and - physical third person data.

What do I mean by a variable? Here I defer to the definition offered by Whitehead and

Russell in *Principia Mathematica* (1910 *i.4*) of a variable as "any symbol whose meaning is not determinate is called a variable. If a statement is made about 'Mr A and Mr B', 'Mr A' and 'Mr B' are variables whose values are confined to men." So I take it the meaning is flexible, and hence might be capable of covering the vast diversity of people's opinions about what consciousness is, yet whose values can be determined by actual instantiations of consciousness (tokens). A variable is therefore secondary to the primary instantiations to which it refers.

Getting to the physiological happening is not methodologically a problem as it basically involves inculcting the corpus of neuroscience. Getting information about the other, phenomenal side is a bit trickier.

What is a first person methodology? It is one that takes the first person seriously. It accepts that there is something 'it is like' to be conscious, that there is experience, and attempts to get data on this. Whether or not such data is possible will be a preoccupation here. It also means in order to develop a full understanding of consciousness, actual experience is a necessary part of the story, (here my chief opponent will be Dennett (6)). Disciplined phenomenology in its various guises as the project of describing experience, (Neurophenomenology 1996, 2003) will be of great aid in the production of such data. Describing experience is exactly what is needed if we want to get a discussion of consciousness of the ground. By 'describing' experience, preferably in a systematic fashion (Varela 1996), we are getting as much of first person experience into the public domain as is possible. So our descriptions, responses and their confirmation that describe the first person experience are the maximal means we now have, and will possibly ever have, for getting something that allows an explanation to run between the first person *experience* and third person *understanding*. So the first person data, as discussed by Varela, is in the form of a structured report by the first person about their particular phenomenal experience. It therefore represents the content of conscious experience / thought, but is in the form of a report; so is broadcastable in the third person domain.

Such a methodology does however allow us, as investigators, to tentatively or instrumentally attribute consciousness to agents, if they say they have it (and there is no other reason to think that they might be lying or wrong (Goldman 2004)). Making this latter move is not dissimilar to Dennett's intentional stance (1981) except it goes one step further (than beliefs and intentions) all the way to consciousness (see 6). Attributing consciousness to agents in this way is the commonsensical and best

explanation, inferred to in everyday usage of such terms as e.g. thinking.

I should, however stress that setting up the first person against third in this manner is only for the sake of highlighting that there is a contrast between the two, in terms of epistemology. It would be wrong to say that they are completely opposed or at odds. As I wish to maintain the working hypothesis of token identity between the two sides, between mind and body, it makes sense that they should not be at odds, but that the good work in the field is to be found when the two sides are in agreement, when a phenomenal change corresponds to a physiological change. They are just different ways of understanding the same event.

The reason why I opted for an *instrumental* variable is because of the explanatory gap. That *we* collectively are shut off from knowing directly the content of other people's minds, means that any explanation *we* give will be necessarily incomplete. Third person explanations will always fall short of the mark because by their very nature they can not swell to include the conscious first person experience itself. It is this loss of perspective, loss of information, that is the reason why we cannot be any stronger in our claims of theories of consciousness than to infer (and not deduce) a tool that is going to do little more than aid our explanations, predictions and discussions. It may refer to the physical and phenomenal instanciations, tokens on both sides of the gap, but itself is only a tool.[a]

A working hypothesis I take to be one of token identity (see below). However, as Kim (2005,ch4) points out, identity statements alone have little or no explanatory value. If one of the only reasons to go beyond identity is the epistemic need for an explanation, then this is yet another reason for which we should invoke an instrumental variable, because it is only this epistemic consideration, a need for explanation, that forces us to postulate another category. This should not force us to evoke another ontological category (Levine 1983,2001). However, the postulation of the variable, acting as a 'bridge-law' might be enough to prevent this form being viewed as a reductive explanation (Kim 2005 Ch4, also see note f).

I wish to emphasise that such third person instrumentalism, the absence of anything 'real' that

[a] Varela et al (1991) use empathy to make a similar inferential jump as I have indicated.

you might call consciousness in the third person, does not mean that there is nothing that is consciousness. It is not elimitivism. Quite the opposite; it is the result of an epistemic consideration that means that 'we' cannot know something collectively, but 'I' or 'you', in the first person can know it. Also it does not mean that the actual tokenings, instances of physical activity that embodied consciousness are not real, they may be, its just that *our* understanding of them is limited. So although this might be considered a strongly anti-realist view in the third person, it might also be thought of as a form of realism in the first person; such a position has been dubbed 'qualia realism' (Chrisley, Aleksander 2006, Van Gulick 2006).

A theory based on inference should give us cause to be cautious. But how cautious? I think the mere fact that we can make predictions (some of them quite accurate) from third person measures to first person phenomenal content, means that we don't have to be too careful. I think, roughly our caution should track common sense, because it would allow us to investigate the subject in question, which is agents with consciousness.

The Set up

I will briefly describe how the C variable can be utilised within experiments to provide understanding that at least refers to both sides of the mind / body gap.

At this stage, what such a model would look like may seem unclear. Essentially, I see the model as being a graphic in visual space (as the visual modality conveys the greatest amount of explanatory information). Because of various restraints I have not been able to show a mock-up of the model. But to help clarify what I intend; it would be a graphical representation of C running in real time and driven by the measurements gained from physiology, and also keyed and driven by first person data.

As we want the variable to correspond to both mind and brain (personal and sub-personal activity respectively) it should have two inputs. Sub-personal neuronal / brain activity of a subject can be measured using a variety of invasive and non-invasive techniques (for (fMRI (functional Magnetic Resonance Imaging) see for example Ffytche et al 1998), (for EEG (Electroencephalography) for

example see Sergent et al 2005 or Laureys et al 2001),(for Electrophysiology see for example Penfield(1954)). The activity measured is taken as one of the inputs for the model. The other input is taken to be the subjective experience of the subject of the experiment, as conveyed to us through report by the subject (assuming we can trust the subject, see 3&4).

If this is possible, then we can use it to make testable predictions, the major limitation to which would be the fineness of grain of our data (both in terms of the limitation first person methods / data and third person methods, technology and data). The finer we can grind the grains the closer we can get in the direction of making predictions and making the claim that we can read other people's minds. Although we might never be able to get all the way there (due to the explanatory gap) we might still be able to get within a hair's breath, to the point of being able to tell / predict the content, with high fidelity, of some one's phenomenal experience from physiological activity alone (such protocols are used by Haynes et al 2005). We can even go on to confirm these through evoking a phenomenal experience of the same type in another subject. This refinement will involve working on agreement between first and third person data. To ask any more of a theory, than conformation of such fine grain physical and phenomenal identity through prediction and test, seems to me question begging.

This is not dualism

Acceptance of the explanatory gap is often thought to imply dualism, but this is not the interpretation its original presentation was supposed to have (Levine 1983). Levine (1983, 2001) takes it to be an epistemic gap between explanations and says this is the reason for the apparent contingency of identity claims and rejects the move between conceivability to possibility (Kripke 1972, Chalmers 1996) that results in an ontological difference and dualism. I defer to these arguments (Levine 1983,2001) for justification of a monist basis for my theory.

Acceptance of the explanatory gap may cause difficulties if the theory were based around type identities (as types refer across people) so I instead try to base in token identities, and develop an instrumental view regarding types. The ultimate reference for what consciousness is, is to be found in a subject as instances of their physical and phenomenal activity together.

4. Problems with first person methodologies

To reiterate, we want to get subjects with subjective phenomenal experience in our experiments. This alone is all that is really needed to do battle with the claim that something is being left out, which is often the claim of the critic of theories of mind / brain identity. They (e.g. Chalmers 1996) urge that we are leaving out the 'what it is like' aspect of experience; it is there in the subject of the experiment as his or her experience. This is nothing particularly new; it is almost of a working assumption in neuroscience (Dennett aside for now).

In developing this theory the connection between the C variable and the first person must be secured. So we, collectively, need to attempt to get some grasp of what the subject is thinking; we require data. One framework, through which this has been done is Neurophenomenology (Varela); another is Marbach's use of Husserl (2005). A more general framework is that of phenomenology and all that that involves: especially but not exclusively introspective methods and the gathering of first person reports as first person data. This will involve a loss of at least perspective, ownership and experience itself. This does not prevent the C variable from referring to and describing both sides and neither does it prevent us from making predictions. Still, in producing a variable we must shore up the connection with first person data, because obtaining data that corresponds to experience is what is needed by the model to get it up and running. This will not be that straightforward, as it will be hindered by the problems of first person data and methodologies which have a long and destructive history, involving behaviorism and in its latest guise, the anti-first person methodologies of Dennett.

As stated the model is accepting of the explanatory gap (that is why an instrumental variable is used) and the model will rely on getting first person data, so any problems with first person data that are not wholly due to the explanatory gap are going to cause problems and so deserve attention. However, as the explanatory gap is normally a problem (if not *the* problem) for the development of such mind/brain theories, (as opposed to a premise, as it is here) it is often conflated with other problems of first person methodologies. So if there are other problems they must now be faced, hence I must first separate out the other problems for first person methodologies, and then show that they are surmountable. They are surmountable through development of experimental protocols that can take account of these ‘other’ problems, while the explanatory gap is not. And as far as these other problems

are inextricably intertwined with the explanatory gap, their impact may be lessened or accounted for in the interpretation of data with such instrumental methods as that indicated by the model.

So what are the problems faced by first person methodologies? Broadly speaking, they seem to fall into three categories: reactivity, reproducibility (Ericsson 2003) and mistakes / getting it wrong. A particular aspect of the problem of reactivity is highlighted by Dennett as the reason we cannot interpret first person data as indications of consciousness, so this will receive particular attention.

The major problems faced by third person methodologies is the explanatory gap. Beyond this, there are the empirical problems of neuroscience and psychology. These will only receive attention as far as the problems for first person methodologies overlap with those of the third person.

Reactivity.

Essentially the problem of reactivity is that being aware of something is one thing and being able to report it is another. That is, the act of producing a report itself affects a task, as communicating a phenomenal event to the outside itself requires cognitive activity in addition to that of the phenomenal event. As Snodgrass (2006) puts it, "direct unmediated reports do not exist". This can be simply and effectively demonstrated (Gagne and Smith 1962 reported in Ericsson 2003) by showing that the performance of a task is altered by a request for a report, by comparison to controls, who were not required to give a report.

The problem of reactivity differs from the explanatory gap in that it all happens before anyone else receives or interprets the output. Reactivity as a problem is due to the process of monitoring and development of a report being a additional piece of cognition (and experience) that is secondary to the primary process of experience. But both processes (the experience and being aware of the experience) are internal to the subject, they do not require a move to the third person in order for them to take effect. So this is a problem for first person methods that is independent of the explanatory gap. If the problem of reactivity can be disentangled from the explanatory gap in this way, then reactivity may well be interpreted as resulting from a difference between what we are experientially conscious of,

being something different or requiring a separate, additional act required in order that we can access or pay attention to it. It is easy to see why reactivity is often conflated with the explanatory gap when it is taken into account that the production of a report allowing the move into the third person domain requires that the move be made from experience to access (if such a division exists) in order for there to be a report produced. However, the 'explanatory gap' only really kicks in when someone else tries to work out 'exactly' what it is you were thinking / experiencing. The gap between experience and access on the other hand does not have to involve anyone else. [b]

I think this aspect of reactivity can be most clearly understood through the use of the differentiation between Phenomenal (P) and Access (A) consciousness made by Block (1994 1995).This is a common and much talked about differentiation in the literature. P-Consciousness is experience (See Block 1995 where Block gives his reasons for which we should not expect a fuller reductive definition, which is essentially the explanatory gap). Block gives a three fold definition in terms of the sufficient (but not necessary) conditions for a state of A-consciousness: "a representation of its content is (1) inferentially promiscuous.., i.e. poised to be used as a premise in reasoning, and (2) poised for [rational] control of action and (3) poised for rational control of speech.(1995 p237)" So A-consciousness, I take it is the side of consciousness that is conceptual, representational and allows the formulation of a report - essentially, intentional and belief states. And P-consciousness refers to the experiancal, qualitative side of things where the elusive qualia lurk (see 6). In this respect the differentiation between P and A consciousness mirrors that offered by Peacock (2001) between Non-Conceptual content and Conceptual content (as noted by Block 1995), where thought with conceptual content corresponds to A-consciousness and non-conceptual content is likely to reside in P-consciousness. This helps to elucidate why A-consciousness is expressible: it has concepts, and there are difficulties in expressing P-consciousness because it is devoid of concepts on which to base a description. The point that Peacock (2001) makes is that conceptual content could not explain the richness of experience; there simply are not enough concepts to do that. Another way to understand A-consciousness, discussed in the literature, is in terms of meta-cognition, which highlights the 'level above' or monitoring aspects of this mode of cognition.

[b] Reactivity is not to be confused with the problem of reflexivity, which I see as an expression of the explanatory gap, because it refers to the point that any theory of thought proposed by a researcher will itself be a thought, hence circular and reflexive, and is yet another reason why an instrumental variable should be used.

The idea of P- and A-consciousness is controversial, as is the notion of non-conceptual content. However, it is not my purpose to discuss the pros and cons of these theories. Neither have I any need to do so, as I am only using them to clarify a point about the problems of reactivity and first person methods.

No doubt I am likely to be accused of conflation myself in my combination of reactivity and the difference between A- and P-consciousness, or beliefs and conscious experience. But if we take away the 'explanatory gap', take away the report, its interpretation, anything that involves the movement between first and third person (and deal with this separately (see 3)), we still find there is a problem of reactivity. It is hard to see how it could come down to anything other than the result of there being a difference between raw experience and the secondary, meta-cognitive, A-consciousness process.

Reactivity, once the explanatory gap is removed, then can be seen as the additional cognitive act required in going from P-consciousness to A-consciousness. That is, phenomenal experience is one thing, and accessing this (formulating a belief or an intention about it) is another supposedly additional act. So in measuring physiological activity that co-varies with a phenomenal experience, how can we be sure that we are not measuring the correlates of the development of an intention to act or belief state (its access) rather than those of the experience itself? This is a way in which the problem of reactivity presents itself to a first person methodology that wishes to talk to a third person science (See 5 P no A third section). However, there is an additional aspect to the problem that arises from the division of consciousness into P- and A-consciousness or the separation of beliefs and consciousness.

Dennett's first problem for first person methology

What seems to me the more substantive aspect of the problem of reactivity, is that put forward by Dennett (2001, 2003, 2005) as the reason for which the intentional stance cannot go all the way in attributing consciousness to agents, it should stop at intentions. That is the possibility that there might be A without P or P without A or, in Dennett's terms, the possibility of beliefs without consciousness or consciousness without beliefs (See 2003 p21,2005 p44). Strictly speaking Dennett does not accept the P & A distinction, instead choosing to draw the same line in a different place, between beliefs and

conscious experience (but here nothing much rides on where the line is drawn). As A-consciousness, beliefs are prerequisites of report and report is the only means we have at *our* disposal for getting to consciousness, then first person methods relying on the collection of data about consciousness have a problem, if beliefs are independent of consciousness. This is an aspect of the problem of reactivity, as it stems from the idea that a belief is a secondary act to the experience and results in data available from the first person being incomplete. This aspect is termed, by Dennett (2003,2005), 'outrunning'.

Reproducibility

Having reproducible data is a central tenet of scientific methodology. That is that Science is based on regularities, and if you cannot be sure that you have regularities then science of mind has a problem. Here science cannot be sure that there are regularities because the privacy of the first person experiential perspective precludes there being such direct interpersonal inter-subjective checks as could inform us of regularities on the first person side. This aspect is an expression of the explanatory gap, and is again a reason to treat consciousness, in the third person domain tentatively and instrumentally. Use of Within-subject measures may not be limited in this respect, because they are not dependent on interpersonal factors and may therefore help in setting up experiments (see below). However, they will be more prone to errors and will limit our ability to replicate results across all experiments.

Limitations on reproducibility also seem due to a second factor. That is, we are dealing with a highly complex system in a state of constant change and variability, composed of highly complex phenomenal and physiological events. So it should not be any surprise that, given such complexity, each instance or token of consciousness experience might be unique. Uniqueness clearly restrains the possibility of full reproduction. This is not to say that there is no possibility of working out the regularities (indeed, this is what I advocate in the next section). It is just that we should not be surprised if working out the regularities is difficult given the complexity involved. In this respect the problem of reproducibility in the studies of consciousness is no more limited than in the production of weather forecasts and can be overcome through the use of good experimental protocols (Note: this is consistent

with my use of the C variable in the formulation of predictions)[c]. This aspect of the problem of reproducibility is independent of the explanatory gap and it seems in principle surmountable.

Getting it wrong

People get things wrong (Nesbit and Wilson 1977). This problem, for first person methods, is as simple as that. The reasons they have for making mistakes may be diverse, they may receive wrong information or their interpretation may be flawed in a myriad of different respects. Indeed, the ability to misrepresent has been used as a defining factor of an intentional system (Dretske 1981). The way to address this is simply to compensate for it experimentally by identifying and illuminating or avoiding all the factors that may lead to getting it wrong e.g. somebody having a reason to lie.

People getting it wrong, being limited in their cognitive abilities, seems to be a simple and complete way to explain why it is that we should be wary of the trust we can have, even in our own thoughts (Marcel 2003). This does not mean that there are no thoughts. Some, possibly many of them, might be correct, and this can be tested.

So there are problems for the model and a first person science of consciousness. What would be the wrong thing to do would be to give up and say we are measuring nothing and retreat to behaviourism or heterophenomenology; I would refrain from this as these methods would undoubtedly leave something out. This something is the 'what it is like' aspect to experience and this (not something else like recurrent processing) needs explaining (Chalmers 1996). Describing recurrent processing will no doubt be informative and part of the explanation, but it should not force us to reject the thing that we set out to explain, i.e. conscious experience. If such an explanation of consciousness were any good, it

[c] The analogy of the weather forecast can be used to illustrate the explanatory gap; that is that a weather forecast is a scientific tool or instrument that, even if perfect, can only predict the weather. It is not the wind and rain, the weather itself, although the relations between the representations in the model are functionally as close as possible.

would still simply be a way of describing, complementing, conscious experience; reduction does not have to lead to elimination.

The barrier between conscious experiences and beliefs about those conscious experiences is not the same as the explanatory gap itself. The explanatory gap may well be principally insurmountable, as it is between the first person and others, not between divisions internal to the first person. Such internal issues as reactivity and the out pacing that Dennett uses as his reason for not attributing agents with conscious states, I hope to show are either incoherent or surmountable.

5. Ways round

Generally, prospects look bright.

The prospects for using a first person methodology to produce data that generally reflect the content of experience look good. There seems to be a broad agreement in the field (apart from Dennett) that we can arrive at data that changes in line with and refers to first person experience (see the two special editions of the *Journal of Consciousness Studies* on *Trusting the subject* Vol 10 no 9-10 and Vol 11 no 7-8, where roughly 8 out of 10 academics prefer it). In order to get such data we must first reduce the probability of issues such as reproducibility, reactivity and human error.

Here I will focus on methods to get round the problems indicated above, but in terms of the actual divisions in phenomenology that we can achieve and use to change the variable I will simply defer to Varela(1996) and Marbach (2005) who have discussed some of these divisions. The only division of this sort I will discuss will be that between P and A-consciousness.

Getting over reactivity and outpacing

Firstly, I wish to deal with Dennett's claim that consciousness may outpace beliefs or beliefs may outpace consciousness, as I see this as the principal barrier which prevents the instrumental variable / the C variable from going all the way to consciousness (as advocated by Levine 1994). It prevents first person methodologies doing what they set out to do: getting data about conscious experience.

A with no P

The possibility of there being beliefs without consciousness is more easily dismissed than the possibility of consciousness without beliefs. This is because the idea of beliefs without consciousness seems simply incoherent. In order to believe something, you have to know you believe it; One is required to *think* a belief state in order for it to *be* a belief state. Without conscious expression it is hard, if not impossible, to see what a belief state could be. It could be described as an implicit part of cognition that does not receive attention, but then I cannot see how it could be termed a belief state and not part of un / sub conscious processing: it is only once it receives attention and you are conscious of it that it becomes a belief state. There is the possibility of getting things wrong, by having a belief state about a conscious experience you did not in fact have (e.g. "What *was* I thinking?" type reasoning or the kind of reasoning that is thought to be found in some cases of schizophrenia), although the content of such belief states does not refer to a conscious state, this does not prevent the misrepresentations themselves from being conscious experiences. The ability to get things wrong, although troublesome for investigators using first person methods, does not negate the point that people can and do often produce veridical reports, and it certainly does not support the claim that there are beliefs that are devoid of conscious experience.

The possibility of there being A with no P is explored by Block (1995) where he remains agnostic about the possibility of actual cases of A with no P, but he is clear that it is conceptually possible that there might be A without P. This would take the form of Chalmers style Zombies (physically identical creatures to you or me but without phenomenal consciousness) or super

blindsighters (blindsighted people who have no phenomenal awareness of the seen in front of them but are still able to produce the intention to act in response to objects in their blind field (these people do not exist)). Remember that Dennett is arguing that because there may be A with no P we can't go to consciousness with the intentional stance (2003p20-21). Is this right? Can Dennett really be evoking such mythical creatures in defense of his argument? These creatures, particularly zombies, were dreamt up in order to do battle with the likes of Dennett's physicalist theory, which says that there is nothing more to explain than the physical goings on (as, if a zombie is physically identical, but phenomenally different from us, physicalism has failed to tell the whole story (Chalmers 1996)). But if Dennett wishes to argue that there may be A- without P-consciousness or beliefs without consciousness (and his papers are devoid of concrete examples of this, and such a shrewd philosopher as Ned Block cannot provide any either), then it is hard to see how Dennett can look to anything other than the realm of conceptual possibility for backup. As the rebuttal of such conceptual possibilities is Dennett's bread and butter, I see this as inconsistent, and suggest that the best thing to do under the circumstances is to reject his assertion of the natural possibility of beliefs without consciousness as incoherent.

Accusing Dennett of evoking zombies is a little harsh. He is more likely to talk of tacit beliefs as examples of A without P. He might say that you do not have to have thought something to hold on to it as a belief. For example, you may believe that 2379+2891=5270 is true, even if those specific thoughts (about 2379 etc) had never crossed your mind (thanks are due to Till for pointing this out). I would hold that this may be true and you may believe it to be true, but only once you have thought about it is it your belief state; or in functional language, the state must be explicitly be expressed in the register of an agent in order for it to count as an intentional state of that agent. This may come down to a difference in opinion about what a belief is. And so I wish to highlight that on Dennett's concept of tacit beliefs, it is hard to see how there could be *any* information state that could fail to be a belief state of, well, everybody who has the *potential* to think. Allowing beliefs to be so independent of possession and expression means that Dennett's take on beliefs can bare little resemblance to what most people and psychologists take a belief to be (see for example Colman 2001, or OED). Their notion of what a belief state is includes the idea that, at some point, beliefs and intentions are possessed and apprehended by an agent.

The reason for which A- without P-consciousness is highly unlikely, is probably best

understood if we take A-consciousness in its meta-cognitive guise. Meta-cognition allows self monitoring and brings with it the notion of monitoring 'above', and that of a secondary (and therefore reactive) process that arrived relatively late in our evolutionary history (Dennett would probably agree with this much). If it does 'ride above' or monitor phenomenal consciousness in this way, it makes little sense for it to be found in the absence of the substrate on which it is based, i.e. phenomenal conscious experience.

As I am attempting to develop a natural instrumental explanation that refers to both sides of the actual instances of consciousness, conceptual possibility should not give me cause for concern in making this argument, which is about methodological approaches. I think even Chalmers the great advocate of conceptual possibilities, would agree with this, as he says zombies are only conceptually possible, not naturally (Chalmers 1996). The wider problems of conceptual possibility for the monistic aspect of theories such as this and mental causation, is a worry for another day. So in sum, if instances of A-consciousness with no P-consciousness do not exist, it is not a problem for first person science.

P with no A.

This is the possibility that there may be conscious experiences that we are unable to access, unable to form beliefs about. This is far more troublesome than A without P, because it is far easier to see how it could be actually instantiated. The idea is essentially that P-consciousness may outstrip that which is accessible, and so the bit that surpasses A-consciousness, the bit that is purely phenomenal is shut off from investigation and its inclusion in first person data, as there is no access on which to base a report.

I think this problem can be understood in two ways, a strong and a weaker reading. The stronger would hold that P- with no A-consciousness may be actually instantiated and more pervasive than often thought. This is because if there were such phenomenal experiences without access from which we are altogether excluded they must be permanently shut of from access. In this case, we would have never known about them and therefore they could be a lot more pervasive than originally thought, because we are by definition shut off from the ability to form beliefs about it (this seems to be Dennett's take

(2001)). However, I think that part of this is incoherent in a manner similar to that of A without P. If we are forever shut off from accessing this part of phenomenal consciousness, forever shut off from forming a belief about it, then we would never be able to say or think we were aware of it or even conscious of it, and P-consciousness, you will remember, is a form of consciousness. In which case, can we really say it was consciousness at all? Should it even be allowed to enter our model of consciousness? Would it not be better to regard these as aspects or expressions of sub- or unconscious processing?

The example of P- without A-consciousness of blindsight (blind people who are still able to perform above significance in visual discrimination tasks), given by Block, is interpreted by those at the forefront of neuroscientific research in the area (see Cowey & Storig 1991,1997) as being just such an unconscious phenomenon; "characterized by an absence of any consciousness"(ibid 1997 p535).

So I find the strong reading of this problem is mistaken, as it is highly doubtful whether a notion of P- without A-consciousness that we are forever excluded from accessing in any way, has the right to call itself conscious experience. However, I doubt that this is the kind of purely phenomenal inaccessible state which Block is attempting to highlight.

Even if the stronger reading is incoherent, it does not negate the weaker; the weaker problem would rather be that there are states that are only *partially* accessible. As Dretske eloquently points out the perceiver does not have to understand something in order to see it (Dretske 1994). That is that there may be some aspect of experience you are aware of that is not quite graspable or expressible, something ineffable, intangible, which you are not quite being able to put your finger on. Again, to use Peacock's notion of non-conceptual content: if there is non-conceptual content then there is an aspect of thought that we are shut off from describing and reporting because we do not have the concepts to do so. Such states are still capable of causing a problem for first person methods in the way Dennett wishes because there is still the inability to access part of the experience on the part of the subject, even though he or she is aware of the experience in the phenomenal sense.

The possibility of P without A is also a problem for Dennett (if both P and A-consciousness are

forms of consciousness and he claims his explanation (1991) to be complete). But instead of confronting the problem he seems to shift the boundary, so that A-consciousness is pretty much the only thing that corresponds to Dennett's notion of consciousness. This is clearly seen in his discussion of "global availability" or "fame in the brain" and his conflation of beliefs and experience (as pointed out by Dretske 1994). Anything of P- consciousness that remains, Dennett seeks to get rid of completely (see 6).

I see three principal ways in which this problem can be overcome or reduced. Firstly, in the vast majority of conscious acts we do have access to the phenomenal aspect of consciousness. Phenomenal experience almost always has content that we are fully and implicitly aware of and can report on. Most of the time we know what we are thinking; it is what we are thinking. If in the vast majority of cases we do have such access and it is only in a few, contentious cases that our ability to formulate a belief or intention about that state is limited, then we should be justified (in most cases) in attributing consciousness to subjects, if they say they possess it. Further, the incidence of P with A certainly seems common enough to build experiments on. If experimental protocols are set up in order to avoid such 'not quite being able to put your finger on it' phenomena, by using phenomenal experience that the subject is sure he is having as our independent variables (as the key in the above model), then we would have no reason to think that the subject was not capable of accessing the phenomenal aspect of experience, and then we can go on to attribute consciousness to him. This is a reason why I suggest some of the following techniques, such as 'simplicity'. It is also consistent with the idea that we should set up experiments with an awareness of just this sort of phenomenology in mind. This is what Gallagher (2003) calls front loaded phenomenology. (How this is similar and differs from the intentional stance will be dealt with in section 6). In such circumstances the ability to form a report should not be viewed as a hindrance to the exploration of consciousness, but a key ability, an amazing ability we have to convey our thoughts through language. So this ability should be exploited through the use and acceptance of reports.

My second point here is that if there are such states that are more phenomenal than accessed, then can we come to access them? Can we direct attention towards the aspects of phenomenal experience that are in the normal course of things unattended to but experienced? If so, then there may be little on which Dennett's objection is based, as the aspects of experience that are unattended to may

become attended and contribute to our theory. How is this done? Here I again follow Varela in saying we need to be serious about our phenomenological endeavors (1996). Firstly, the construction of rigorous phenomenological categories and understanding will help guide both the subject, in getting to the aspect of phenomenal experience we are interested in, and the experimenter, in providing a catalogue and structure to guide experimentation. Another element of this point is that practiced, trained and regimented introspection might well allow the subject to achieve some degree of access to the phenomenal nature of experience that is usually independent of access. This is what meditation might do for us, in bringing A- to P-consciousness. This is one of the reasons why I think skilled practitioners of a meditative tradition should be used in such experiments (see below).

The third and final way to tackle the problem of outpacing and reactivity is to anticipate what might be the result if P- and A-consciousness are or are not separable. If they are not separable, and A-consciousness is always to some extent co-present with P-consciousness then the problem simply vanishes, and first person methods are justified. The only remaining concern (other than the explanatory gap) is finding the right words and protocols to allow data to be collected on first person experience (personally I favor this option, as P-and A-consciousness seem to be different points on the spectrum of consciousness). If, on the other hand, P-consciousness and A-consciousness are separable, then it should be possible to confront this experimentally. If we look at the physiological activity in the presence of a request for a report and compare it with the activity in the absence of such a request, the difference should be the activity due to the formation of a report; similar protocols are discussed by Ericsson (2003). Activity in the presence / absence of access can also be investigated via the use of masking protocols (see e.g. Sergent et al 2005). Once you have worked out what activity is due to the reactive, monitoring, meta-cognitive A- process, you can do what you want with it: take it away from other measures during cognitive experiments to leave only the activity related to the experience of the task rather than the activity due to forming a report on it. Or, if meta-cognition is your subject of interest then you should look at the difference in content between the two independent variables (with and without report) and the resultant change in the dependent variables (the physiological changes). In practice it probably won't be that easy, but the principle should hold.[d]

[d] Discussion of the sub personal / personal division that is consistent with the view I am advocating can be found in Varela et al (1991). I should also reference Andy Clark as his ideas of embodiment and the *extended mind* have highly influenced my thinking, particularly with regards to the personal / sub-personal divide.

Report.

As indicated, what is needed is a report, from the subject, of what he is thinking. Essentially, not that difficult: you could ask him. If the above issues can be surmounted with these techniques, we should be able to trust the subject that what he says he is experiencing really is what he is experiencing (unless we have another reason to think him untrustworthy (Goldman 2004)). As Roepstorff and Jack (2004) note there is no principal problem to getting introspection into science.

In asking the subject the most common method is by language and verbal report. There are many issues surrounding the use of language itself, largely based around reactivity and I have no space to consider these separately. So I only wish to highlight that it is a very useful, under-appreciated tool, whose regular and sustained usage itself is an aid to reducing reactivity. We only rarely spend time formulating a speech act independently of the thought process underlying it, causing and being the content. We rarely think before we speak. Obviously this does not eliminate the problem of reactivity, but helps reduce it. The use of language as a means to facilitate communication of internal state and experience to others is commonsensical (Piccinini 2003) and implicit in its everyday usage. Even Dennett highlights it as a viable means to get to intentional states (1991b).

Range

As I have indicated, there are problems with first person introspective reports that cast doubt on the trustworthiness of some of them. Some reports we can trust and others we should be sceptical about. What is the "range of introspective reliability" as Alvin Goldman (2004p14) puts it? I agree with him that we should look largely at the middle ground, to those aspects of consciousness that are accepted to fall well within the realm of conscious experience and attention and are easily if not implicitly accessible. So, experiences that the subject is sure he is experiencing, like changes in stimulus modality, sudden pains, presented colours etc., are those that, because of their unambiguity, seem best suited to being used as the phenomenal keys or measures. These subjective experiences can therefore be most easily communicated and so are also best candidates for being inter-subjective

measures or “second order isomorphisms” (Marcel, 2003 p170), that facilitate across-subject alteration to the model, and are the regularities on which the variation of the C variable is based: the independent variables. That sounds complicated, but it really is quite simple: reports should be used as an input to change in the C variable, and these should correspond to changes in the subjects phenomenology. The other input is that of physiological measurements, and the two are tied together and co-vary in the C variable; i.e. the reports should inform us about the phenomenal content of the observed physiological changes. So, we should use phenomenal changes that the subject is sure he is experiencing. (I realize being sure implies reactivity, but the subject does not have to think he is sure at the same time as the actual phenomenal experience; he can be sure afterwards (see post task walk through)). This also means that we should avoid looking at phenomenal experiences that are beyond the means of the subject to report, whether that be due to his not having the conceptual tools to report the phenomena or the perceptual ability to access them.

This does not imply that research which looks at the borders of what is detectable is useless. Indeed, research such as that on change blindness and attentional blink (e.g. O'Regan et al 1999) is very informative and useful in terms of defining the borders of what we can and cannot be aware of. It's just that in terms of getting some concrete first person data on which to base the model, the center ground seems the best place to achieve inter-subjective comparison (and keying change in C). We should base our research on the things we are sure of and can agree upon.

The range in variance of the C variable is set by the range in its two inputs. The range of physiology that can be tied to phenomenal events is an empirical question that may well be affected by problems, such as the third variable etc. that in essence do not differ from problems encountered in any other complex system. The range of phenomenology, on the other hand, that corresponds to any particular report is in principle unconquerable, due to the explanatory gap. However, the use of the discussed techniques, particularly phenomenology, should enable us to work out who and which reports to trust, and allow us to develop quite a detailed picture of the variance in any particular phenomenal grouping or clustering (Varela 1996).

Part of Dennett's argument (1988, 2005) is that if there were a disagreement between what I call first person data and third person measures, then it should be third science that 'wins'. So, if we had a

situation where science has shown physical activity X to correspond to phenomenal experience X and we have a subject who insists he is experiencing X, but physiological measures show him to have physical activity Y, then Dennett would say we should reject his belief that he is experiencing X. Maybe, we are after all fallible, and the subject could have got the whole meaning of phenomenal state X wrong in his report. Because I am accepting of fallibility I am not open to this, Dennett's basic anti-infalabilist argument (2005). But assuming such a mistake has not occurred (assume the perfect introspector) then Dennett may still reject the subject's opinion, as, for Dennett the report is based on something that does not exist (i.e. phenomenal experience, qualia, see 6). However, I think we would be better taking the subject seriously and interpreting such a subject as an anomaly, an extreme outlyer on the *range* of physiology that can be associated with a phenomenal event. The range of physiology that is determined by science to correspond to particular phenomenology is worked out by the discovery of the activity found in the presence (as opposed to the absence) of that phenomenology. It is the content of the scientific theory that adapts to include these relationships and outlying anomalies. For example this is what happened in the case of synaesthesia (See review by Ramachandran and Hubbard 2001); science had thought that plasticity in the adult human brain would not be able to produce such effects, and we should treat such subjects as delusional, where as now, such plasticity is accepted, so it is science that has folded, not the subject's opinion about the phenomenal state. So I again state that the most productive work in the area is done when the two sides agree and neither should be thought of as 'winning'. Dennett can retort by saying that if we have a perfect introspector then we should be allowed to make use of a supposed perfect science, in which case there might still be the problem of disagreement between the science and phenomenal report. I do not think this is possible because the perfect science should take into account such perfect reports and include them in determining the range of physiological activity (e.g. Physical Y) associated with phenomenal activity X. But this difference between our two positions comes down to whether or not we take the report as referring to a phenomenal state (Chalmers and my position, that would lead to the inclusion of physical Y in the range of phenomenology X) or not (Dennett's position that would lead to the rejection of the report); which is the unresolved difference in the way we interpret data, that seems to be the unresolved shouting match that exists between Chalmers' and Dennett's approaches (Chalmers 2004, Dennett 2001). It is unresolved because both sides can accuse the other of simply stipulating that reports do or do not refer to phenomenal experience. So we must look somewhere else for resolution (See 6).

Other Methods

Here I simply wish to emphasise that I'm not alone in thinking that first person data is possible and that it can be used to fill out our explanation of consciousness. Neurophenomenology is a method for investigating and integrating the relationship between phenomenology and neuroscience (Varela 1996). The methods and direction in which I wish to proceed are very similar to those indicated by the late Fransisco Varela and I am indebted to his theories. I wish to borrow and highlight three points from the general approach in Neurophenomenology: "(i) to obtain richer first-person data through disciplined phenomenological explorations of experience, and (ii) to use these original first-person data to uncover new third-person data about the physiological processes crucial for consciousness" (Lutz & Thompson; on neurophenomenology 2004 p32); and (iii) that this allows the development of clusters of phenomenal reports that can be used by the experimenter as inter subjective measures which can be conveyed to clusters of third person physiological events (see Gallagher on neurophenomenology 2003). This clustering on both sides I see as a great means and aid to the development of robust and meaningful changes in the C variable.

Another methodological aid or insight that I wish to include in experimental approaches is of front loaded phenomenology (Gallagher 2003). This is very similar to the methods I have indicated and those involved in neurophenomenology, except with the emphasis on the experimental set-up; taking into account the differences in phenomenology. The independent variables are based in phenomenology. This method emphasizes that we should set out explicitly to include and test the findings of phenomenology by their inclusion in the experimental design, as indicated in the discussion of P without A.

A criticism may be made that whether or not the scientist can attribute consciousness to agents is dependent on their ability to report that they are conscious and so we exclude any agents, or animals that do not have linguistic ability. A further criticism is that we need some kind of similarity to other agents in order to facilitate the inferential jump (that allows us to attribute consciousness to them). I do not accept this, because, as Dennett, we can remain uncommittal about whether or not such creatures are conscious prior to investigation or prior to their telling us it is the case. The onus is on the experimenter to find a way round (see for example Smith et al 2001). There is no reason to think such

creatures should or should not be conscious from this point of view. Also, if P-consciousness is a form of consciousness and is as simple as experience, then this might rapidly lead to panpsychism, which is the opposite view from that of the original accusation, though I do not intend to explore this route here.

Another method that is consistent with the view I am advocating is Marbach's (2006) use of Husserlian phenomenology, which is used as a catalogue of phenomenal changes that may go on to be equated with physiological changes.

More experimental protocols

There are a number of experimental protocols that should be taken note of, as their application to experimental procedure should help reduce the problems mentioned above by increasing reliability and reducing reactivity. But because they have little philosophical relevance other than in this way, I will not dwell on them (many of these can be found in detail in the Ericsson and Simon lab manual (1984)):

Use of open questions; i.e. do not lead the subject, allow the subject to develop their own report.

Think-aloud (Ericsson & Simon 1984) protocols, when well practiced, can give insight into thought process behind the performance of experimental tasks.

Post-task walk-through procedures are often considered less reactive than think aloud protocols because the subject is asked what he was thinking after the task is complete, often in combination with a recording of the experimental task (also known as non-reactive observational techniques)(Ericsson 2003). This is because the subject is free to have the phenomenal experience during the experiment (when the physiological activity is being measured) and is only required to make an A-conscious report of it after the experiment

Comparison of reports between subjects, within subjects and across time, to see if individual subjects use particular words in the same way, so aid in getting a grip on phenomenal variance. Examples may include verbal semantic tests, or even the Ishihara test for colour blindness as a measure for phenomenal variance.

Comparison between experts at a task and novices can also help elucidate the cognitive process behind

the task (Ericsson & Simon1984). This is likened to the effect of training, see below.

Get the subject to do one thing at a time (Marcel 2003, Roepstorff & Jack 2004).

Keep it simple. The simpler the response (e.g. button press), the task and the differences between the phenomenal states you are trying to get to grips with, the better. So the memory load should be minimized, as should the potential for the subject to get confused (unless that's what your independent variable is), and minimize the amount of interpretation required of the subject. Keeping it simple will reduce the amount of activity needed to produce a report and hence reduce the problem of reactivity.

Zapping the other way

Thus far I have largely been discussing going from phenomenal state to third person interpretation. There is, however, also the possibility of going the other way (from third person knowledge to first person experience) and so confirming the changes highlighted by the model. Obviously there is the understanding of third person theories, by the first person, in the form of a scientist who can comprehend the findings. As Varela (1996) points out, scientists are communities made up of individuals. This is a reason why I see the model as an explanatory tool.

What is more of interest is that we can use our third person knowledge to inform us on means to actually evoke first person phenomenal experiences in the subject, thereby confirming the links we are attempting to establish between first person experience and third person data. The electrophysiological techniques pioneered by Penfield are much under-appreciated in this respect. They allow us to use third person knowledge to make predictions about where to stimulate the surface of the brain, in order to give rise to a particular phenomenal sensation (e.g. pain or movement in the subject's arm, or visual field perturbations). These are practicable experimentally and confirmable both behaviorally and via first person methods. So now the phenomenal effect becomes the dependent variable and the physiology becomes the independent variable. These techniques are not used much any more because of the ethical issues that surround such massively invasive methods (which are essentially that they have been done before and are dangerous). However, the basic pattern of going from third person knowledge of the brain to first person phenomenal experience is alive and in the field of TMS (Transcranial Magnetic Stimulation, though this technique is less accurate, it is non invasive) and to

some extent the field of psychopharmacology.

Training

The big aid to first person methodologies is training. It is the most common cure in the literature for the problems of the third person (e.g. Ericsson and Simon, Roepstorff and Jack, Marcel, Varela). This is, at least in part, because the act of training and becoming familiar with a task, becoming habituated to it, can reduce the need for self monitoring, which is clearly a source of reactivity. So the activity we observe in the subject will be more due to the activity required to accomplish the task, than due to the requirement to report that you have done it. Also the quality of the report will improve if the subject is familiar with the task of reporting. So, warming up and familiarization with the stimulus and protocol will help (Ericsson 2003).

I also wish to highlight that training in the art of meditation is a vastly under-appreciated (in western science) method of conducting phenomenological exploration (as Varela points out,1996) - though as a means of getting to phenomenology, it is slowly becoming accepted. A recent conference at MIT brought together neuroscientists and accomplished practitioners of meditation, and the general outcome was very positive and in favor of using the skills of practitioners as tools in conducting experiments (See science news (Barinaga 2003) for review of the conference) such as in those conducted by Davidson et al 2002.

One of the reasons I have for calling attention to such training in meditation will become clear in the final section. For now, I wish to emphasise that I see no reason for such an introspective discipline not to be included in our scientific strategies. It is structured, and so this structure may guide and form the basis for the construction of interpersonal measures, enhancing the reproducibility of results. Meditation itself is repeatable; one frequently attempts achievement of the same states of meditation, and this becomes easier with practice. In short, meditation may well be the most developed (historically), formal, reproducible and most far reaching form of all the introspective and phenomenological methods.

As indicated above, I think that meditation can be used as a way of bringing A- to P-

consciousness. It is not hard to see how, as this is basically what you are told to do in much of meditation, i.e. focus your attention on experience, quite often without any conceptual content. An opponent might respond and say, theoretically yes, but does it actually work? Does it bring A- to P-consciousness? To test this we would need an example of P without A and then to train someone to overcome this. If we allow ourselves to forget, for a moment, that the professionals involved with blindsight patients (medics and neuroscientists) are of the opinion that such patients are without any form of conscious visual experience, and temporarily accept Block's use of blindsighters as examples of P- with no A-consciousness, then the question would be, do blindsighters perform better at visual discrimination tasks after they have been trained and thought about it? Does meditating on the scene help? This last part is an empirical question that has not yet been addressed (as far as I know), but the 'does training help?' bit has been and the answer is yes: blindsight patients who have done a lot of these experiments get better at them (Cowey & Storig 1991,1997). So if blindsighters are examples of P without A, they can learn to some extent to bring A to P.

6. Dennett, Heterophenomenology and the intentional stance

What is heterophenomenology? Heterophenomenology is Dennett's own brand of method for the investigation of consciousness. It is an exclusively third person method: that is, it involves taking an objective, third person attitude to the investigation of consciousness. The word heterophenomenology combines phenomenology (the study of conscious experience) and hetero (which means of another, i.e. in the third person). He claims (2003) that it "covers all the ground of human consciousness" (p19), and "It leaves out no objective phenomena and no subjective phenomenal experience" (p20). Naturally, with the premise of the explanatory gap, and my adherence to the first person point of view, and because of its 'exclusivity' to only third person methods, I wish to follow Chalmers (1996) and say that Dennett is leaving something out, and that is the 'what it is like' aspect of conscious experience which is in the first person, not the third. This line of argument has been thoroughly explored elsewhere (e.g. Chalmers 1996).

A point that Dennett makes is that pretty much all of the cognitive and social sciences can be subsumed under heterophenomenology, because they are third person investigations, so consistent with

his methods (2003, 2005). This make the goal posts very wide (Levine 1994) a fact that Dennett uses to his advantage when he challenges his opponents to name an experiment or investigation that is off limits to heterophenomenology, I feel there are such investigations and some these are the first person investigations described (e.g. Lutz & Tompson 2003). However, Dennett would undoubtedly say that these too can be taken under the wing of Heterophenomenology (Dennett review of Varela et al 1993). But as Chalmers (1996) points out all such investigations, that look at the mind, can be understood from a first person perspective as well. So whether or not cognitive or social sciences can be understood though heterophenomenology does not lend weight to Dennett's argument, if they can be understood as 'referring' to and describing first person experience as well.

The 'Intentional Stance' (Dennett 1981, 1988, 1991, 2005) is central to heterophenomenology. The intentional stance is essentially a way, an attitude of scientific investigation that allows us to attribute beliefs and desires to agents. We view agents in terms of their having contentfull attitudes; intentions. Dennett goes on to discuss how these are instantiated in real patterns of activity (1991b). I agree with this: it is almost exactly what I have said we should do in terms of inferring that other agents are conscious. Indeed I am highly indebted to Dennett's work in this area and so I see what I have proposed to be an adaptation rather than a refutation of what he is saying. Even if Dennett himself is not accepting of there being an explanatory gap, the intentional strategy can still be seen as a way of instrumentally crossing the gap; a way for the third person to accept that the first person at least has beliefs.

Dennett's instrumentalism, in connection with intentional states, is very similar to mine regarding consciousness in general. This can be seen in his discussion of beliefs being analogous to centers of mass (2003p20). Our reasons for choosing such an anti-realist position are different (mine is the explanatory gap, his might be the possibility of P with no A or vice versa or even that beliefs might correspond to something fictitious). Though instrumentalism is not a phrase he is happy with, he thinks of himself as more a "mild-realist" (1991b p30) as we can see in his discussion of Real Patterns (1991b), and here I agree to some extent with him that the patterns in actual physiological activity are the real instantiations of consciousness, but due to the epistemic considerations any knowledge about these will be incomplete. It is worth noting that as far as third person theories go, and they are required to bolster that side of the model, such explanations as offered by Dennett are really very good, useful and informative, particularly his ideas about thought being temporally and spacially extended (1991). However, Dennett only wishes to develop such an instrumental tactic with regard to intentional states.

His strategy relating to consciousness is more one of reduction (which largely consists of a reductive explanation of what Block has termed A-consciousness through an explanation of 'global availability' or 'fame in the brain'(1991,2005)) followed by a chipping away of other attributes such as P-consciousness through a discussion of, say, 'consciousness as a cultural construct'- and finally an elimination of what ever remains and is unpalatable to a purely third person method (i.e. qualia).Unsurprisingly, I think this is the wrong tactic because it results in the elimination of the thing we are interested in. Better to extend the instrumentalism to consciousness and get on with the real work of seeing how phenomenal and physiological activity run together.

So, given that I think Dennett's theory should be adapted, how should it be adapted? Firstly, I think that in crossing the explanatory gap in this way there is something that is lost, which is experience itself. Third person theories of consciousness are necessarily going to be devoid of this (though they may describe it) because that is what a third person theory is. This leads me to the conclusion that third person theories will be necessarily incomplete, and so our attitude toward such theories, in the third person, should be one of extreme instrumentalism, even more tentative and fictitious than Dennett is willing to be. However, this instrumentalism in the third person does not afflict the understanding of consciousness in the first person; this can be as real and substantive as anything. It is just the third person methods that cannot be complete with regard to consciousness. This is how the epistemic aspect of the explanatory gap must express itself.

My second recommendation for adaptation of Dennett's theory is that the intentional stance should go further than he proposes. It should go beyond intentions to consciousness itself. Attributing consciousness to agents would allow first person methods to get off the ground, because once we accept that subjects have consciousness we accept there is a unique first person perspective, and we can start doing some really productive work in seeing how the first person experience corresponds to the physiology that produces it. It is because the intentional stance and its adaptation to include consciousness is so fundamental to the production of a first person science that refers to both sides, that I have spent so much effort in showing that Dennett's reasons for not allowing the intentional stance to go to consciousness (i.e. outrunning, see above) are not valid.

However, I think the reasons Dennett chooses not to allow the intentional stance to go to consciousness are more covert than those stated by Dennett (2003,2005). I think he does not allow it to go all the way to consciousness because it would jeopardise his project of developing an exclusively

third person science of consciousness. Having subjects with conscious experience means that there is something they might know (i.e. experience or qualia) that the third person investigator might not be able to know. So Dennett's caution regarding moving the intentional stance to consciousness might not be due to the problem of outrunning, but would be better placed if he submitted to the explanatory gap and said that his third person theory is limited. As I do.

Dennett's tactic is instead to deny the explanatory gap (for a shining example see Dennett's response to Frank Jackson's knowledge argument (1982): *What RoboMary Knows* (2005 p103-129) (for a rebuttal of which I simply defer to Michel Babington's response *What roboDennett still doesn't know*(2006))) and offer a reductive explanation in the third person, that is supposed to cover all the ground. As noted he denies anything left over that cannot be included on a exclusively third person methodology.

Qualia, Definitions of qualia.

Qualia are notoriously hard to define. It is a term first coined by Lewis in 1929 as the "recognizable qualitative characters of the given" (1929, p121) and I am not denying this as a definition but the phrase that comes up time and time again in reference to qualia is the 'What it is like' aspect of experience (probably best attributed to Nagel's usage of the phrase in *What it is like to be a Bat* although he does not use the term 'qualia' in this piece). So I define qualia as the 'what is it like' aspect of conscious experience for a subject. This is a broad definition and covers allot and encroaches on a myriad of properties, including; awareness, the first person perspective, perception, but particularly it refers to the phenomenal aspect of experience.

The reason I have for using such a broad definition is simply that I cannot think of any conscious experiences that have no qualia to them: there is always something that it is like to have any conscious experience. There are no members of the class of conscious experience that are without qualia. This is consistent with what I have said about the unlikelihood of A-consciousness without P-consciousness. If you can think of counterexamples please let me know (Zombies need not apply for the aforementioned reason). I think such a definition of qualia is consistent with Chalmers' own definitions (1996 p4, p359n2), as well others including; Dretske's usage (1994) and Shoemakers (1975).

The basic approach, then, of Dennett's argument is, firstly, to strip down qualia by allowing a contrast to be made between qualitative and cognitive activities and then to use this contrast to argue out of existence anything that remains.

Advocating qualia in such a way is the target of Dennett's paper *quining qualia*(1988). This paper consists of a series of 14 thought experiments or intuition pumps, designed to convince us of the unworthiness of a notion of qualia and that we would be best to get rid of the whole thing. This is clearly going to be a problem of first person methods because if there is no such thing as qualia, nothing it is like to experience (other than a cultural construct), then the first person methods described are trying to get a grip on something that does not exist, they will be reaching for nothing. I cannot concur with such a dismissal because I do not agree with the notion of qualia he uses and then discards. Following Dretske (1994), if such a conception of qualia were to be accepted, I too might consider dropping them. So what is Dennett's notion of qualia? Dennett offers the four-fold definition of qualia as that which has the properties of being: "1) ineffable 2) intrinsic 3) private 4) directly or immediately apprehensible in consciousness"(Dennett 1988 p4). However, such a definition of qualia is not widely used (outside the discussion of Dennett's thesis). Reasons for rejecting such a definition are offered by Dretske (1994 p49-54) and Lormand (1994 p127-154) where the definition is discussed and rejected as incoherent. As Dretske puts it "according to Dennett's own characterization it is difficult to see how qualia could fail to be effable"(1994 p53). I agree with this and wish to highlight that much of the work done by Dennett in the rejection of qualia relies on a contrast between qualia and other cognitive activities that is simply incoherent, if these cognitive activities have a quale to them.

One of the intuition pumps Dennett discusses is the case of Mr Chase and Mr Sanborn. Here he tries to show that qualia are false because differences in Mr Chase's and Mr Sanborn's opinions about how their qualia have changed over time is unreliable, and nether they nor a scientist investigating these changes could shed any light on what it is that has changed, hence there is nothing substantive on which to base our notion of qualia. If Chase and Sanborn cannot be sure that they were in one of two situations, then neither could the scientist and we should therefore (because science should be able to measure a change if there really is one) reject qualia. This move, that causes Chase and Sanborn to be unsure as to the relationship between their qualia and e.g. their memories (p10) or reactive attitudes (p10), is facilitated by the contrast he makes between qualia and other cognitive activities. It is this contrast that I think is a weak point, and it results from his overly restrictive definition of qualia. For

example, he says that Sanborn's qualia have shifted but his reactive attitudes towards them have stayed constant. But there seems that there must be is something it is like to actually have a reactive attitude towards something, it has qualia. Just because we can explain a 'reactive attitude' in terms of functional relations does not mean its expression is suddenly freed from qualia or phenomenal experience. The reductive explanation does not in itself preclude the experience of a reactive attitude from having qualia to it, (instead an explanation should offer a different perspective on the same event, experience, and should if done properly support the existence of phenomenal experience). At the very least, having a reactive attitude toward coffee is going to involve reacting to the coffee; drinking it. It is very difficult to see how this is not going to involve tasting it as well. It seems apparent that the actual expression of a reactive attitude must involve coffee qualia. To ask; did the qualia come before or after the reactive attitude, as Dennett does (p10), therefore makes little sense, not because there are no qualia but because the reactive attitude, in its expression must have qualia. So on my conception (and others e.g. Chalmers, Shoemaker, Dretske etc) of qualia what Dennett is really saying is that Sanborn's taste qualia have shifted while his taste qualia have stayed the same!?

The conception of qualia that Dennett ridicules relies on a modular conception of mind to facilitate this contrast (hence “before…after qualia phase”, 1988 p10) that he himself rejects (1991) in his idea that the mind may be temporally and spatially extended or “smeared” (1991 p119). What he seems to have failed to realize is that the qualia realist does not have to have a Cartesine conception of mind; such temporal and spacial extension is perfectly consistent with the view of qualia I and other qualiaophiles advocate (e.g. Chalmers (1998) and Varela (1991)).

The objection on which this is based (i.e. that his definition of qualia is overly restrictive and allows him to get away with unacceptable contrasts) is briefly discussed in *quining qualia*, where he enters a brief confrontation with Shoemaker (private correspondence with Dennett (1988)), in which Shoemaker, having discounted Dennett's definition (for similar reasons as I have indicated) gets the same treatment as from Dennett as he denies Shoemaker's use of 'phenomenal'. Dennett then proceeds to offer a reductive physiological explanation for 'phenomenal', which he then withdraws as soon as he has proposed it, because he realizes that this physiology is inaccessible to introspection, hence incapable of standing in for phenomenal. So instead he, in a roundabout way, says it could come down to experience (1988 p4-5). Great! What is the one thing the third person experimenter is not allowed to do in heterophenomenology? Experience the experiment. Also he has in one word managed to justify all my conflation between qualia, first person, phenomenal experience and consciousness.

However, even if we reject Dennett's definition of qualia, then there still may be a problem lurking in his paper when these untenable contrasts are striped away, that may cause difficulties for any theory that wishes to get the first person talking to the third (although I think it is a problem for Dennett as well). This is the problem of inverted spectrum (Dennett intuition pumps 3,5,6 and 8 1988). The inverted spectrum argument is essentially; how can we know that what it is like for me to experience a blue object is not what you experience as red when viewing the same object? The inverted spectrum argument is a long and convoluted one that encroaches on many aspect of philosophy, particularly theories of reference which I have no desire to wrestle with here, but here I wish to look at the different ways we might come to negotiate this problem in the development of theories.

Dennett, I would guess would say there is nothing 'it is like', no qualia, in which case the problem is void. Unsurprisingly, I interpret this as yet another guise of the explanatory gap because to go from my experience to yours is across people, across the gap and as such I think it insurmountable, in terms of deduction. However, this does not prevent the *inference* that, when two people view the same object it appears to them in a similar way. And from there we can go on to get measures of how similar or different it appears to me or you. This will involve getting a grip on phenomenal variance through behavioral measures such as the Ishihara colour blindness test. However 'behavioural measures' is not a phrase I am happy with, because I think (along with Chalmers) they refer to differences in qualitative state, not just behaviour. As a colour blind person I'm pretty sure what it is like for me to see red is not what it is like for the majority of the population; I have certainly been known to say "that's a great shade of red" only to be told it's brown. Such tests, corresponding to phenomenal, qualitative differences (as I and Chalmers take them to be), would likely be interpreted by Dennett as highlighting differences in perceptual ability, not qualitative differences. To which I again respond by questioning the possibility of there being instances where perceptual ability is actually expressed, and part of consciousness awareness[e] that are without qualia. Dennett would no doubt respond by saying that I am, in a round about way, just restating that I think perceptual differences refer

[e] There is no reason to think that the actual content of 'having a perceptual disability' need be in the content of conscious experience, only that it would shape and affect the production of phenomenal experience, affecting the content; yes, but there is no reason to think the disability was the content. The sub-personal mechanisms may produce the experience but they are not its content. This aspect is the sub-personal / personal division which is a separate argument.

to qualitative differences, and so the Dennett-Chalmers shouting match continues without resolution. So I now turn to a problem for Dennett.

A possible problem for Dennett:

Dennett repeatedly (1991,2003,2005,2006) challenges advocates of first person methodologies to come up with experiments or studies that are shut off to heterophenomenological methods. So, other than differences in interpretation of data (viz Chalmers-Dennett debate), what does Dennett admit is not allowed by heterophenomenology? Dennett say when "the subject and the experimenter are one and the same person, that is a foul" (2003p23). I feel that the study of meditation represents exactly this type of inquiry. In order to develop an understanding of meditation the investigator must experience meditation, and in so doing become the subject in his own experiment. Anyone who wishes to be knowledgeable about meditation is going to have to do more than to acquire third person knowledge, they must be practitioners. The scientist could learn something from third person measures of a meditating subject or even talking to practitioners, no doubt, indeed this might be very informative, and I advocated such inquiry. Such data can be used to reinforce both sides. But to suggest that such exclusively third person investigation of meditation, declares itself to represent understanding that is in any way complete, is almost laughable. This is because to be knowledgeable about meditation requires that you yourself practise it. You will never find a monk who is a knowledgeable scholar who is not or has not been a practitioner of a tradition. Dennett cannot argue that it can be subsumed under heterophenomenology because a necessary part of understanding meditation is doing it, experiencing it yourself.

Dennett might say meditation is not a science, and his challenge was to name a scientific study that cannot fall under heterophenomenology. But this is only because meditation is not a third person method. Dennett cannot have it both ways; he cannot challenge us to come up with studies, say what these investigations would involve (which is a first person method), in doing so saying they are possible - and then, when you have come up with such a study, say it's not a study. It was he who stated what the study would have to involve. I don't think the example of meditation differs from the "lone-wolf" (2003p23) methods he disallows. Additionally, meditation resembles science in other respects; it has structure, seems to be reproducible, makes predictions, helps understanding etc. The only thing that science might be that meditation is not is third person, although, as Varela (1996) points out, the

scientific community is made up of individuals. It seems to me science might well be able to swell to take on board the addition of the first person perspective and adhere to one of its aims to leave nothing out, while Dennett's theory by his own stipulation, cannot.[f]

Dennett would more likely say that meditation is just hocus pocus or smoke (or incense) and mirrors, and it is not any different from any other form of introspective thinking or self-monitoring meta-cognitive act. However, the only way to know whether or not it is hocus pocus is to try it yourself, thus again committing the foul. Even if it is just introspection we can substitute meta-cognition for meditation and the argument still runs. In order to avoid the foul Dennett speaks of, the scientist whose job it is to investigate self-monitoring meta-cognition, must be able to achieve knowledge that is *complete* without ever having performed such introspection themselves. In doing so they might *add* to their knowledge by means of effectively being the subject in there own experiment. I fail to see how such third person knowledge could be as complete as Dennett suggests (2003).

[f] The wider implications for science are not my quarry here, the above is really meant to demonstrate a problem for Dennett's methods as I think science in general is perfectly capable of inclusion of first person approaches. Although (because I do not wish to leave this incomplete) I recognize that such addition of the first person is an expansion of the explanatory base in this manner will jeopardize sciences adherence to pure reduction (Kim 2005). However, this might be negotiated by reference to token identity, in that physical and phenomenal stuff are all one event. Taken together with an instrumental view of science (and therefore its inbuilt flexibility to take things on board) and the point that this sacrifice, of reduction, might need only be made in a science of mind, where the first person perspective is the subject matter. This might make us more inclined to think that, in losing reduction and gaining first person perspective and experience in our explanations, in our science, we gain more than we loss.
Kim would also probably ask how the model deals with mental causation, and I can only apologise for not having space to expanding on this here.

7. Conclusion

Part of the mind/body problem is the explanatory gap, the gap between first and third person knowledge. I have tried to develop a model that is capable of a least referring to both sides. Getting it to refer to the first person side is the tricky bit, and here I use, amongst other things, an adaptation of Dennett's intentional stance that allows us to attribute consciousness to agents. Dennett's reasons for not going this far have been my chief problems as has his denial of first person methods altogether.

So, while I am not suggesting that such a model is capable of closing the explanatory gap, if we know explicitly where the gap is, we can mind it, and infer (use of the C variable) and side step (use of experimental protocols) our way round it, ending up with, something that is conducive to real progress being made in the sciences of mind towards the inclusion of subjective experience, and with the ultimate goal of leaving nothing out.

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