A swan song for analytic metaphysics; do physics and cognitive science crowd out analytic metaphysics?

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What I want to talk about today is how someone like me, who starts out with an interest in metaphysics comes around to seeing there are substantive assumptions built into contemporary analytic metaphysics about how belief relates to the structures described in a physical ontology that are holdovers from a very outmoded view of mental representation, and why I see physics and cognitive science as partners in completing a naturalistic view of the world in a way that crowds out those practices.[i]

I am going to introduce a problem about the nature of time and strategy for resolving it that can act as a template quite generally for how to bridge the gap between physics and phenomenology. The strategy works by giving us a schematic account of the kind whose details would be filled in by cognitive science of how a world of the kind described by physics would get represented in the experience of a representational system that processes information in the way that we do. Then I'll compare the strategy with practices in analytic metaphysics and try to bring out where those practices go wrong. I'm deliberately suppressing a lot of complexity so that we can get the whole forest in view. because these are high level methodological issues that will disappear from view if we stop to articulate the trees..

Time

From physical time to phenomenological time

The problem that dominates contemporary discussion in the metaphysics of time is that of reconciling time as it appears in physics (time as one dimension of an unchanging, four-dimensional manifold of events) with time as it appears in experience (the flowing time of everyday sense, with its fixed past and open future). The difficulty, to put it crudely, is that nothing in the physics of time corresponds to flow or passage.

This presents itself as a metaphysical debate about the nature of time. We have the Parmenideans on one side, borrowing authority from science, insisting that flow and change are illusions, and the Heraclitians on the other, giving priority to experience, insisting that the physical conception of time is inadequate because it doesn't incorporate flow.

It's a problem that physicists have also struggled with. Carnap reports that it troubled Einstein, perhaps the most penetrating and original thinker about time that there has ever been, writing:

"Once Einstein said that the problem of Now worried him seriously. He explained that the experience of the Now means something special for man, something essentially different from the past and the future, but that this important difference does not and cannot occur within physics. That this experience cannot be grasped by science seemed to him a matter for painful but inevitable resignation…. [Carnap] remarked that all that occurs objectively can be described in science; on the one hand the temporal sequence of events is described in physics; and on the other hand, the peculiarities of man's experiences with respect to time, including his different attitude towards past, present and future, can be described and (in principle) explained in psychology. But Einstein thought that these scientific descriptions cannot possibly satisfy our human needs; that there is something essential about the Now which is just outside the realm of science."

Now, when Carnap says 'psychology' here, he means just the scientific study of the mind quite generally. And although I hate to side with anyone against Einstein, I think I want to agree with Carnap.[ii] With the qualification that it's not clear what Einstein means by 'satisfying human needs', I think that 'psychology' in this broad sense, does give us what we need to relate the human experience of time to the absolute structures captured in a physical theory.

Hartle's strategy

In 2004, James Hartle, a cosmologist at UCSB wrote a paper Hartle's paper "The Physics of Now" did something quite interesting, showing how to explicitly construct a physical system, which is fed information about a four-dimensional manifold of events and generates something that recovers the difference between past, present, and future, and reproduces the flowing character of phenomenological time.[iii]

Here's how the IGUS works. The device has a coarse-grained image of its external environment of the (roughly) occurrent state of the world displayed in register *P*0 with some small, but finite temporal duration (so that it is not just an instantaneous snapshot but has the content of some small stretch of film), together with records of past images contained in back registers.[iv] The robot has two processes of computation: one that works by using sensory information to update the image of the world displayed in P0, and one of which uses that image, together with the information in past registers to guide behavior by implementing a decision theoretic computation. The decision-theoretic procedure (and hence the information it utilizes, viz., the image displayed in P0 and the information contained in memory) is conscious, but the computation that delivers the

updated image of the world into $P0$ is not.[v] The task is to find an interpretation for flow and passage in content-level structure, and here we want to look at the content both at and over time.[vi]

At a time: the fact that the content of experience at any instant spans a finite interval means that the world as perceived at any moment *as* moving, changing, constantly in flux.[vii] Over time: The fact that we can look back over our history and see the change in our perspective provides an interpretation of passage.

What has happened here: we have a proposed resolution of the age-old debate between two very different conceptions of the nature of time that is one of the hardest and most divisive debates in philosophy and it provides a template for how to bridge the gap between physics and phenomenology that Einstein was pessimistic could be bridged. The strategy was to show how structure at the level of phenomenology can be generated by the cycle of representation and re-representation from different temporal points of view over the course of a life without being attributed to the absolute fabric of time, so that the manifest momentary impression of motion and flow, together with the perception of passage over time were products of the changing viewpoint rather than anything in the absolute fabric of time.

Supercharging the IGUS

Hartle's IGUS is a stripped down device that was actually just intended to recover the division between past, present and future. In a paper of my own I developed the strategy a little further, by introducing a supercharged IGUS. The supercharged IGUS – the IGUS+ - is just like Hartle's IGUS, but supplemented with an autobiographical memory and reflective processes.[viii] If this was the original IGUS, this is the IGUS+. My suggestion was that if we take the supercharged IGUS, and we let the cycle described above run a little we can get something actually convincingly close to the full contours of our own experience. In that paper, I did a lot to try to make this convincing by showing how this cycle of representation and rerepresentation from different temporal viewpoints works to generate the increasingly complex structures that are part of our temporal experience. what the strategy is doing is effectively what Carnap suggested to Einstein - viz., looking to the processing of temporal information to recover the very complex structures that arise at the phenomenological level. From this perspective, there are mistakes on both sides of the metaphysical divide. The mistake that parmenideans make is rejecting real features of temporal experience (the sense of flow and passage) as illusory, and the mistake that the Heraclitians make is reifying them in the Absolute fabric of time.

Letting the process run is crucial to generating something with more structure at the phenomenological level because it allows structure to build up. This happens in two ways:

The first is that the brain gloms onto regularities and patterns that appear over time, and stabilizes distinctions that depend on those patterns. Those distinctions get built into the momentary the content of experience and appear in consciousness as part of the uninferred contents of experience. I focused on the sense of flow and the perception of movement, but there is also a much richer kind of sensorimotor awareness that involves a distinction between what one does and what merely happens, and a growing understanding of the causal structuring of one's environment. These two things go together because the stabilization of causal pathways requires the cycle of intervention and observation. The brain is no more a detached observer than the scientist in the laboratory, and the capacity to intervene is what allows it to separate causes from correlations.[ix] Psychologically, it is a very interesting question how all of this works, but it happens without the conscious involvement of the agent. At the level of consciousness, what starts out as a trickle of information simply becomes a richly connected stream in which the IGUS experiences itself as a locus of sensorimotor activity. We've all seen this process begin to take hold in an infant who gradually gets control of her limbs and begins to learn how to manipulate the things in her environment, and it is the cognitive scientists that make that process the explicit object of investigation, and tell us how it works from the computational level right down to the nuts and bolts level of neural circuitry.[x]

The second way in which letting the process runs allows structure to build up is that explicit representations of past experiences accumulate in memory, reflective processes take those explicit representations as objects of representation and a much more interesting hierarchy of beliefs begins to emerge. There is the accumulation of memories of past experiences, not just the changing image of the world that gave the content of experience in Hartle's IGUS, but explicit representations of time from differing perspectives over the course of our lives with all of the very complex temporal nestings that arise from this iterated cycle. I suggested in the paper that introduced the supercharged IGUS that a lot of the cognitive and emotional phenomenology of human life arises from the interaction among these perspectives that are copresent in every temporal cross section of a human life.

We have expectations and plans and fears and hopes. The events of one's life are encountered from multiple perspectives, first in anticipation, later *in praesentia*, and finally in retrospect. And it is not just the events, but the perspectives themselves that we represent. Later perspectives have earlier perspectives as constituents. Earlier ones have later ones as constituents. You remember anticipating what it would be like to look back on your early years. You know what it is like to feel sadness at the memory of years of regret attached to expectations for a relationship in light of what actually came to pass. That kind of structure is built on comparison of the view of the same events from multiple perspectives; anticipating them, experiencing them, viewing them in retrospect.

As structure grows up overtop the ground level of belief, reflective processes restructure and reorganize information in ways that are heavily informed by language and learning including. A continuous cycle of reflective representation and re-representation, preconceiving our histories, planning, acting... We add differences in emotional attitudes to past and future, and all of the narratively structured emotions like surprise and regret and hope and fear. And we begin to get something close to the full-felt quality and content of our inner lives.

Analysis

What the IGUS is is a physical embodiment of a computation that takes information about history as it appears sub specie aeternitatus into a representation of history as it appears from the point of view of a participant in it that processes and utilizes information in the way that we do. It was really just a schema for the transformations wrought by the cognitive machinery that mediates sensory input and belief. Formally, it plays the same role as the operation that takes a frame-independent representation of space into a frame-dependent one, providing a transformation that takes a view of time sub specie aeternitatus into the view of time through the eyes of the IGUS. Let's call it the generator of the IGUS's point of view.

The generator is an iterated procedure, rather than a static mapping; it takes information about history in in stages and generates a stream of representations of history as a whole from an evolving viewpoint in it. I don't know why the image of a meat-grinder comes so naturally to me, but here is how I picture it. Information about local matters of particular fact is fed in. Inside we have all of this accumulated structure (a trained up schema and explicit memories). And out the other end comes the stream of consciousness view of history from the perspective of the agent. (philosophers don't need to be very precise about details..)

If we just compare the inputs to the outputs of the generative procedure, we find that the output has structure that doesn't seem to *correspond* to anything in the absolute structure of time. What goes in is information about local matters of particular fact, and what comes out is – as I put it above - a richly connected stream in which the IGUS experiences itself as a locus of sensorimotor activity in a world whose history is unfolding at is perceived.

The schematic description that I gave above was an amateur and inexpert stand-in for the detailed scientific story how the trickle of information coming in through the senses is transformed into something with the rich structure of phenomenological time. And I am very happy to have it corrected, for it is to cognitive science that philosophers and metaphysicians should look for that story. Answers to questions about how much of the internal machinery gets built in at the factory,

how much takes shape in development, how it evolves under pressure from experience, and how it filters and transforms and shapes the bits of incoming information into the richly structured tapestry of experience will all come from hopefully well-funded empirical research projects. No part of that story is a priori. Much of it is surprising.

Perspective

What I want to suggest now is that the right way to understand that structure in logical terms, is as structure is organized around distinctions introduced by her perspective, and then I'll say a little about how to understand that structure in metaphysical terms. There is no general characterization of what it means for structure to be 'organized around' distinctions that are introduced by the agent's point of view. Familiar everyday examples of perspectival structure are given by concepts like 'nearby' and 'brother'. In these cases, the agent has a location in a static system of relationships and these notions are recovered as relations to her situation. 'Nearby' is recovered as a relation to one's location in space. 'Brother' is recovered as a relation to one's place in a family tree.

The IGUS's perspective is much more complex than a location in a static system of relationships, and there are much more complex ways in which structure can be organized around distinctions introduced by her perspective. To view time from a particular moment is to impose a very specific set of practical and epistemic relations to it; the past is remembered and the future anticipated. The past is beyond practical reach, the future falls within the region of choice-dependence, it – literally – remains to be decided.[xi] The same can be said for a point of view on space. To say that I view space from a certain location is really to impose a quite specific set of practical and epistemic relations to the parts of space. And that is how it should be. If (as physics has it) Being qua Being consists of a four-dimensional block of events, then a point of view on Being imposes a set of practical and epistemic relations to events in the block. So when I talk about encountering the events of one's life from different temporal perspectives, what I really mean is that one has different practical and epistemic relations to the events of one's life (and of course, the wider world) *from* different moments in it. To anticipate something is to expect it to happen, but not to know that it did, not to remember it having happened. To regret something is to represent it as something one did, but can't undo.

And the explicit representation of the view from different temporal perspectives allowed us to say that what is really changing as an agent moves through space and as her temporal viewpoint shifts from one moment to the next is not history itself – which is always and eternally simply what is the case - but her practical and epistemic relations to history.[xii] The description I gave more fully in the paper that I mentioned in which I developed the strategy ("The Logic of TEVPoV") was an account

of how representational structure *builds up around* practical and epistemic relations to the events in history.

It is not just that we view the world from different spatial and temporal perspectives. We have structure that is built on *changes* in one's point of view. The reconstruction of the sense of passage made that point very clearly, because apprehension of our changing viewpoint on time requires not just a view of time from a given perspective, but a higher order representation that compared the view of time from different perspectives. The same goes for cognitive and emotional attitudes like surprise, anticipation, regret, and fear. These all require higher-order representations of the view from different perspectives. And there are higher order representations as well. I can undertake a policy of toning down my expectations so that I don't get so disappointed as in the past. I can develop cognitive tools that will help me do a better job of managing my beliefs and practical affairs. The interaction among these perspectives, all of that structure is built up around them is structure that is built around our practical and epistemic point of view on history. It doesn't correspond to any first-order, non-relational feature of history itself. From the perspective of Being, there is just what happens. The *sturm und drang* of history is internal to the changing viewpoint of participants, and is generated by the cycle of representation and re-representation from epistemic and practical standpoint and then another.[xiii]

The bad news: Because of the logical structure of this emerging hierarchy (there's the ground level of representations of local matters of particular non-relational fact, but then the complex emerging hierarchy built around changes in our practical and epistemic relations to those matters of fact over time), there is no more compact way to transform a representation of history as it appears sub specie aeternitatus into a representation of history as it appears in the experience of an IGUS+ than the generator of its point of view. We need the practical and epistemic asymmetries introduced by the IGUS' perspective, we need the products of the iterated cycle of representation and re-representation to accumulate in memory to allows the comparison of view from different perspectives, and we need the cycle to run long enough to allow the hierarchy to emerge.

The good news: if structure can be recovered from the generative procedure, it shouldn't be reified in the absolute structure of the environment.

Modality

I've just been talking about time. The generative procedure provides us with a formal description of the how a representation *of* history is structured by the changing epistemic and practical

perspective of an IGUS+ *on* it,but I think we can also begin to see ('dimly, but well enough' as David Lewis used to say) how this kind of account might be extended to other issues. If time is one staple of metaphysical dispute, modality is another. Modal facts contrast with what philosophers call categorical facts. Modal facts are facts about what must, or might, or would happen under conditions that are purely hypothetical. They contrast with categorical facts, which are facts about what does happen. As philosophers sometimes say, categorical facts concern actuality. Modal facts concern counterfactuality. We have a closely parallel divide in discussion of the metaphysics of modality between those who think that modality is part of the absolute fabric of nature, and those who think that modality is an illusion. In a view of Being qua Being, according to these latter philosophers, there is only what actually happens.

The description that we already gave of how the world-view of the IGUS develops suggests that the modalization of nature is also a product of the generative procedure. Consider how the world looks through the eyes of an IGUS+. An IGUS+ distinguishes what she knows from what is the case, and what she does from what merely happens. These distinctions give rise twin notions of modality: a way the world might be so far as she knows, and a way the world could be *made* to be, or *would* be if acted on thus and so. Her practical and epistemic relations to history are captured in an evolving profile of epistemic and practical possibilities. The world presents itself to her as a partially known landscape, full of opportunities to be accessed and dangers to be avoided. She doesn't just see what is in front of her but makes guesses about what lies ahead and considers different ways of acting. Her beliefs about the future are the product of a combination of epistemic and deliberative reasoning. She has both passive attitudes in the form of expectations for what will happen and active attitudes in the form of intentions.[xiv] As we trace the changes in her view of time as we move up her world-line we see uncertainty getting resolved by observation and practical possibilities getting resolved by decision.[xv]

Her view of the world is *thickly* modal, meaning that she doesn't grasp the world in categorical terms and *infer* the modalities. She *sees* the world in terms of properties that relate it to her point of view.[xvi] She sees a landscape full of latent dispositions, capacities waiting to be exercised, and causal pathways presenting strategic routes to action. These modalized properties reveal the opportunities and affordances that are there for her and they precede any purely categorical understanding of the properties of things. But once we have an understanding of the generative procedure, we can reverse it to separate the products of the processing from the absolute structures on which that processing operates. The generative procedure provides the mediating link between the structures that are there as part of the absolute fabric of Being. What the processing does is introduce the practical and epistemic distinctions that the agent makes and represents the world in terms that are in a very complex way organized around those distinctions. the separation of the

absolute structure of Being from what I am calling here 'products of the processing', meaning structures organized around the agent's perspective, is what Kant and Aristotle and man others have thought metaphysics is all about (quotes). It is not an epistemically trivial enterprise. But I would argue that what the discussion above suggests is that in a representation of Being qua Being, modalities go the way of passage. They are not part of the absolute fabric of the world, but are properly seen as internal to the viewpoint of the agent, implicitly relating what happens to what the agent knows and does.[xvii]

The logic of the relationship between the modalized vision of the world and the amodal, categorical structure of Being is the same as the logic of the tensed or temporalized view of time and the view of time sub-specie aeternitatus.[xviii] The generative procedure is what transforms the former into the latter. Structures in the output of the generative procedure that seem to don't correspond to anything in our description of Being are recovered by the generative procedure as features of the way history presents itself to the participants. They disappear when we move to an Absolute representation, if we leave the agent out of the picture, because they are organized around distinctions introduced by her perspective.

(aside; what I've been saying here is meant to open up the explanatory space that we have to look to cognitive science to fill. But where cognitive science comes in is actually describing the generative procedure, replacing the schema I gave with a realistic scientific story about how the cognitive machinery in the head develops and how it produces the full rich evolving representations of history that we have at the level of phenomenological time. We experience the products of the generative procedure, we don't experience the procedure itself and there is no way to penetrate those processes with the pure light of reason.

Analytic metaphysics

I want to contrast this with a very different idea about how to bridge the gap between physics and phenomenology embodied in practices in contemporary analytic metaphysics. It has taken me a while to get here, but the point can now be made quite simply. Frank Jackson provided the most explicit and articulate defense of those practices in his 1998 book, From Metaphysics to Ethics.[xix] As Jackson uses the phrase, "serious metaphysics" is the attempt to give a comprehensive account of Being in terms of a limited number of more or less basic notions." Materialistic metaphysics takes its list of ingredients from physics. The research program consists of the solution of locations problems. For any familiar everyday property of anything (modal, mental, semantic, social), the "location problem" vis-à-vis that property is to say how and why the property does or does not "get…a place in the scientific account of our world" (p. 3).

Here's how it works. The primitive ontology is given by physics (usually old physics, but that doesn't really matter, so long as old physics captures the way things are roughly above the Planck scale, we can let it sort out deeper levels by itself). One makes a high level concept – x - that doesn't itself appear in physics its target and asks 'what are x's?'. The method is to collect folk platitudes about x's ('consult our intuitions') and then find the best-deservers for the implicit theory of x's constructed from the folk-platitudes. So, for example, we ask "what is red?". Collect all the general beliefs you have about red, put 'x' in the place of 'red', where it occurs in that collection, and whatever the world offers up as the closest satisfier of this collection is what 'red' refers to. The result is supposed to be an explicit characterization in physical terms of what x refers to.

As he says: "⌜T⌝ here are inevitably a host of putative features of our world which we must either eliminate or locate" (p. 5). And if there is a feature of the world that is ineliminable and that can't be located in this way among the already included ingredients, it must be added to the list as basic.[xx] So there are three options: reduce, reject, or reify. We see the tendency to *reject* at work with flow and passage. The complaint was made that there is nothing in physical picture of time that corresponds to flow or passage, and the dominant view among philosophers of science dismiss them as illusory. We see attempts to reduce and the tendency to *reify* more commonly at work modal properties.[xxi] But in all cases, the Canberra Plan demands that if some feature of the world is regarded as real, there must be something in one's account of Being for it to represent.

What is wrong with it emerges clearly when we look at the way that the outputs of the generative procedure relate to the inputs. There is all kinds of structure in the output that doesn't support this kind of correspondence.[xxii] Because so much cognitive structure is organized around epistemic and practical distinctions introduced by the agent's perspective, if we bracket the agent, we don't find anything in the absolute structure of the world for it to stand for.[xxiii] We saw this initially with flow and passage, and later with the modal properties (i.e., the uncertainties, opportunities and affordance) that the world presents to an IGUS.

If we take the IGUS out of the picture, the structure disappears. If we include the IGUS and her cognitive interaction with the world, we can recover all of that structure. But to think we can bypass the generative procedure in favor of a direct mapping into the domain of fact is a mistake. If we eliminate the POV of the agent as a third term in the relation between belief and Being (which is what we do when we eliminate the generative procedure, for what the generative procedure does is introduce perspectival distinctions and allow structure to build up around those distinctions), we end up either rejecting or reifying structure that is properly recovered as organized around practical and epistemic distinctions introduced by the agent's POV.

Now the Canberra Planner could respond that since we are ourselves parts of nature, a complete view of nature from an Absolute perspective would *include* the IGUS and her cognitive interaction with the world. So it could accommodate products of the generative procedure without reifying them. And that of course is correct. If we include ourselves, we can recover all of this structure in as products of the complex transformative process that is cognition. That is how the structure *should* be recovered. But once the Canberra Planner makes this move, he has ceded my point, viz., that what bridges the gap between physics and phenomenology is not an account of reference but an account of how an agent's cognitive interaction with the world generates the complex and evolving stream of representational states that constitute her conscious mental life, allowing that a lot of the structure that is at the forefront of our epistemic and practical interaction with the world is organized are distinctions that are essentially perspectival. And I think that he has to concede that empirical methods are indispensible in developing that account. Physics and cognitive science are inextricable partners in completing the world-view of science, with physics giving us the account of Being and cognitive science telling us how the absolute structures captured in our account of Being appear in the ongoing cognitive life of the agent. The side-on view afforded by cognitive science of the processes that transform a view of history as it appears in physics and a view of history through human is an ineliminable link in the chain that connects physics to phenomenology.[xxiv] But I see very little room for the pure *a priori* enterprise of analytic metaphysics.

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[i] I believe that Wilfred Sellars and Frank Ramsey and Abner Shimony all held similar positions. Using Shimony's language, I would say that physics and cognitive science are partners in 'closing the circle'.

[ii] With the qualification that it's not clear what Einstein means by 'satisfying human needs'.

[iii] He put is as a matter of reproducing the division between past, present, and future. See my "The Logic of the TEVPoV" for development along the lines described here. For the moment, we will bracket the self-representational part of our representations and just focus on our representation of the non-human landscape. Very special problems attend the representational part.

[iv] Differences between the robot and ourselves. Our information about the external environment is not exclusively visual, it is not stored in a linear array of registers, nor is it transferred from one to the other in the simple manner described. Input and records are not separated by sharp time divisions. We can consciously access memories of other than the most recent data, although often imperfectly and after modification by unconscious computation. This list of differences can easily be extended, but shouldn't affect things here.

[v] Availability to decision-making is functioning here to separate conscious from unconscious processes. In the IGUS+, availability to reflective processes can do that work, which is (I think) a better result. Reflective processes have a closer tie to introspection and consciousness.

[vi] Here is Hartle's description of the phenomenology: I think mine is clearer, more intuitive, and more explicit in distinguishing content-level structure from the content of the generated stream. On flow: "The 'flow of time' is the movement of information into the register of conscious focus and out again." Worries: one has to be careful in talking of movement not to adopt the very dynamic perspective that is supposed to be the product of this process?⌉
And I'm not sure what he means by: "The subjective past, present, and future, the flow of time, and the distinction between predicting and remembering are represented concretely and physically in the structure and function of the model robot." ⌈Don't we need them to be represented in the content of the stream S⌉

[vii]This is a version of the familiar doctrine of the specious present. There are various ways in which it could go, but some version of it has to be right to be phenomenologically accurate. My preferred way of doing it

[viii] I'll sometimes suppress the +, but it should be regarded as implicit.

[ix] I say this without committing myself to all elements of the interventionist conception of cause.

[x] Though the computational level has a special status for our purposes, because it shows us how the representational structures get transformed by the perspective of the IGUS.
[xi] There is no question that there are these differences are part of the content of the first person point of view on time; it is a separate question what grounds them and how they arise. See my 'decision and the open future'.
[xii] One has to be careful to describe these shifts in point of view in a manner that is well-defined in Absolute terms, and I took some care to do that in "The Logic of the TEVPoV".
[xiii] It is also, not incidentally, why intersubjective comparisons of experiences of history are so different. We are representing the very same events from different practical and epistemic standpoints.
[xiv] These are understood by the IGUS as volitionally controlled behaviors. The outcomes of her deliberative processes (both epistemic and practical deliberation) have a special status for her, and because the outcomes of her deliberative processes have the status of free variables for her, she really can test for control. (See my "Decision and the Open Future"). two things structure the field of belief for an IGUS: by the flow of information from perception, and by the fact that she has some practical input in the form of volition-governed action. The ability to act and observe the results of one's actions is crucial to
[xv] Options are conditional expectations that hinge on choice.
[xvi] The force of saying that her view of the world is thickly modal is that it is not as though we ever have conscious awareness of a ground level of pure categorical fact with a generative procedure that constructs the hierarchy. The hierarchy gets constructed by cognitive processes that also generate the reflective standpoint. The reflective standpoint only grasps a very small and unrepresentative part. That is why it is an epistemically non-trivial task to uncover a categorical conception of the world…we are not just undoing processes that we perform consciously, and we have no explicit representation of the starting point.
[xvii] This is not to say that modalities are not objective or real. It is only to say that they are implicitly relational, revealing epistemic and practical possibilities that are there for the situated agent. There are issues that need to be worked out here, but I want to claim that modal notions arise in a non-trivial form from a point of view that introduces practical and epistemic asymmetries into our relations to events.
[xviii] There is more than a formal analogy here; the amodal and atemporal perspective are deeply intertwined, but I want to develop the point here without making it hinge one any view about the connection. But on the connection, see my volition and the open future, but there is moa. I think that I would want to defend the idea that the idea of a temporal perspective is partly epistemic and partly practical.
[xix] The research program came to be known as the Canberra Plan, because that is where Jackson was based when he wrote it, and although not every analytic metaphysician considers themselves a Canberra planner, no clearly articulated alternative ideology has emerged for the practices. There are more recent projects (Sider, Chalmers), that advocate a form of conceptual analysis that has roots in carnap, but as I understand them, they are not addressed to the problem of bridging the gap between belief and Being. What was distinctive about the Jackson program was that it was an attempt to relate the space of ideas to an ontology borrowed from physics
[xx] Reduction is a form of correspondence. To successfully reduce a class of belief is to find some configuration of elements drawn from fundamental ontology for it to refer to.

[xxi] See Sider's very nice survey of reductive and non-reductive theories of modality. "Reductive Theories of Modality", in M. J. Loux and D. W. Zimmerman, eds., *The Oxford Handbook of Metaphysics (*OUP, 2003): 180–208

[xxii] The Canberra plan tries to understand the relationship between elements in the hierarchy and IGUS' environment in referential terms. Beliefs about causes and cowardice, logic and laws, refer just like beliefs about cow and cars. My view is that reification is fine, so long as we don't give them an inflationary interpretation. Causal facts are shadows of causal beliefs, but we tell a story about the fixation of causal belief that doesn't invoke causal facts in an explanatory role. that's what it means to say that causal facts are the outputs rather than inputs to the generative procedure: shadows of causal beliefs. Contrast this with the case of cows. cows are well-defined features of the landscape that play a substantive role in the fixation of cow belief. In this case the cow beliefs are shadows cast by cow facts in the mind of observers. The difference between the two cases for a deflationist is not a difference in semantics, nor a difference in how these beliefs are treated from a first person point of view. It is a difference that emerges from a side-on view of the agent and her belief forming practices in absolute terms.

[xxiii] Those distinctions and all of the structure built up around them are relations to a point of view. What happens when you introduce a point of view is that elements in space-time are ordered by their relations to the point of view. Think about what happens in the spatial case. You may have a region of space in which one point is intrinsically just like any other, but when you introduce a point of view, some are far away. Those differences are differences in their relation to the point of view. What points of view *do* is introduce structure that differentiates elements in a domain in a purely extrinsic way. The ordering and reordering that occurs with the introduction of a changing frame of reference leaves the relations among the elements themselves fixed.
And notice that epistemic and practical attitudes have a different 'direction of fit' with the environment. Practical attitudes are not states whose purpose is not to represent the way things (already) are, but to guide us in making them what they *will* be. The mind sees itself (entirely correctly) as an active participant in history not just receiving information about the environment but actively generating it. that is a perspectival difference, not a difference in what happens, but a difference in how an IGUS relates to what happens, a difference in how her actions and perceptions are braided into history.

[xxiv] If we wanted a full account of the human perspective, we would need to widen our scope, embedding the IGUS in a social environment. Cognitive anthropologists would help us understand how normative concepts – good and right, responsibility and rationality, truth and meaning – arise at the level of culture and form part of the environment in which the IGUS operates.