**Darwin verses Kant and Hume**

I claim Kant's Copernican revolution is at odds with the more profound aspect of the real Copernican revolution, an aspect shared by Darwin's theory. That evolution through natural selection is relevant to the plausibility of and inconsistent with Kant's views and mind-based epistemology. It shows a self-sufficient, independent world, that minds depend upon, and which does not depend upon minds. The evidence for evolution through natural selection is clearer and more scientific than Kant's reasoning and system and should be preferred for this reason and because Kant himself professed to prefer scientific theories confrontable by experience. That given variation in humans it is inappropriate to claim that universal or necessary aspects of nature could depend on invariable and a-priori aspects of the human mind. That supposing the world as independent of human nature allows human experience and understanding can be disordered and mistaken. That universal causation often requires aspects of situations completely unknown to observers. That anyone’s experience is compatible with a vast range of independent causal occurrences that are incompatible with the one and only set compatible with universal causation.  That orderings in time being invariable are an argument they don't depend on the mind.  That Kant's claim that space as experienced is necessarily Euclidean is muddled and not true. That it is not necessary that we must be imagining an empty space if we try to visually imagine nothing. That we can imagine an edge to space. That the self-sufficient and independent world of evolution through natural selection and uniformitarianism appears inconsistent with Hume's view that it is impossible to see how anything could itself produce anything. That we can make sense of how things are themselves sufficient to bring things about by trying to avoid drawing conclusions beyond the continuance of objects properties and processes that can be currently observable. And that this gives rise to the notion of a self-sufficient and independent reality and notion of what it to is be real that is completely different from a Kantian or Berkelian view of what 'real' must mean.

**Kant’s Copernican revolution**

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| Immanuel Kant claimed to have effected a Copernican revolution in Philosophy. But it seems to me that this claim, is in fact a bit of a fault. This is because there are two sides to the Copernican revolution. The first aspect is that of taking the other end of the stick, and instead of supposing the universe rotates around the earth, trying to suppose that on the contrary it is the earth that moves. Similarly enough, Kant takes the other end of the Philosophical stick, and instead of supposing there is an independent reality known through experience, or through the necessary pronouncements of reasoning a-priori he supposes the nature of experienced independent reality depends on the ordering given to it by our understanding which is not suited to the knowledge of independently existing things in themselves. However the more Philosophically and scientifically profound  aspect of the Copernican revolution, instead of being just a matter of taking the other end of the stick and orienting things in the opposite way, is that whereas before the Earth was looked upon as the centre of the universe (with the human race occupying an equally prime and important place in the existence of things), now it is looked upon as just one insignificant planet circle ling a smallish star amongst countless billions of others. Kant’s Copernican revolution, by contrast, is designed to keep human consciousness unequivocally at the centre of the metaphysical universe. It is therefore going in completely the opposite direction to the scientific effect of the Copernican revolution. Kant seems to be insincerely accepting the prestige of the Copernican revolution as a good scientific achievement while inventing a philosophy which, as it claims to give the ‘real meaning’ of the Copernican revolution, is able to ignore its result[[1]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215). But why then should the real Copernican revolution be entitled to much prestige?   There is another aspect to the Copernican revolution popular amongst Kant enthusiasts, this is that Copernicus identifies our normal pre-Copernican view of the situation as at fault, similarly Kant identifies our normal view of the basis of reality as being at fault. In each case we need to reverse our normal point of view to get the correct view. In this way the two situations are comparable. But the Copernican view supposes the truth of the situation as independent of and requiring a reversal of our normal point of view (which it nevertheless allows to appear as it does). The Kantian veiw reverse our normal point of view so as to find reality dependent upon ourselves. As before, this is the complete opposite of the Copernican revolution.               Sebastian Gardner does not mention Darwin, evolution, natural selection, or variation in the index to his book on Kant's Citique. Perhaps this is because the theory of evolution does not challenge any of our structurally fundamental ways of handling the world. It is, and the sort of evidence it appeals to is, mundane and not at all in that transcendental realm that might claim to underlie, be pre-supposed in and make possible all our experiences. And it does not concern the overthrow of Euclidean Geometry, Aristotelian Logic and Newtonian Science which may commonly be thought assumed in Kant’s supposed proof of the external world. However, I think this theory is definitely relevant to the plausibility of Kant’s book. Firstly, this is because evolution seems to provide an objectively self-sufficient explanation of how higher life forms come about, and insofar as it appears objectively self-sufficient it also must make the requirement of any such subjective foundation as Kant supplies appear redundant, just as it makes the need for a designer God redundant. Secondly, consideration of experience can throw up aspects, theories and conclusions which may seem impossible from, or at odds with, the abstract and a-priori consideration of a subject, and, as in the above, I think this is the case with the empiricism surrounding evolution. And thirdly the mundane ordinariness of objections that can be derived from it make them more telling in showing the sort of reality Kant seems committed to proving is very different from the sort ordinarily supposed outside philosophy, as I shall try to explain.    **Evolution through natural selection requires an independent world**  On the face of it if the theory of evolution through natural selection is right then this truth cannot have anything essentially to do with the meaning of any of these words, or any others, including the word ‘truth’, and the word ‘essential’. This is because by that theory over most of the time natural selection has operated there was no-one to mean any of those words, or any others, and it is an accidental fact if there ever happens to be someone able to form and mean any words.              This argument can also be applied to anything human, or conscious. This is because consciousness, and humans, are also accidental products of natural selection, according to that theory. It may be that words, or consciousness, or humans must exist in order for humans to realise that the theory of evolution through natural selection is true, but even so, what is realised (the theory of evolution through natural selection) must be capable of being realised in such a way that its being true, or the truth that this theory embodies, does not depend on any of these things; because they are chance occurrences according to that truth. {this is 'chance' in the sense that there is no predicting it before hand, because the smallest alteration may make an alteration in the outcome, as well as at the macro level situations being too complicated to allow effective practical prediction. It is not 'chance' in the sense of it being claimed that there is no adequate reason for what happens. It is also chance in the sense the need for a purpose governing what happens has been removed.} So it seems that any adequate theory of knowledge that allows the theory of natural selection to be true (under any normal interpretation) must show how it is possible to realise something that does not depend on, or require, the existence of the meaning of any words, or the existence of humans, or the existence of any consciousness. Conversely any theory of knowledge that makes one of these things an essential part of the nature of what is realised or is supposed to be known through our knowledge reaching procedures, appears inadequate to account for a central aspect of the theory of evolution. But Kant bases his theory of knowledge around what our own mental apparatus puts into the ordering of the materials provided through experience and supposes we cannot know the nature of things as they are in themselves, independently of this faculty, or apparatus. So it seems he is committed to supposing we cannot realise the sort of independent reality required by the theory of evolution, which apparently enables that theory to view language, humans and consciousness as accidental.  It may be said that the same is true for a naive interpretation of much of science, but a lot of science is mathematical and can be interpreted as providing merely useful tools for making accurate predictions. Evolution through natural selection is not particularly good at making predictions. It also deals with the existence of life forms, which makes it more difficult to suppose it is just a useful fiction as can be done more easily with the existence of senseless matter. It also seems to show how the natural world is itself sufficient to produce the evolution of lifeforms up to the presently observable state, since the natural world is itself sufficient this makes the need for a designer God redundant, which , in the opposite direction, illustrates that it presumes to show how the natural world is itself sufficient for this. But for the natural world to be itself sufficient what the theory supposes must have occurred and not be a useful fiction. I don’t think I need to claim the theory cannot be interpreted in various other philosophical ways but that these ways are very artificial, unnatural, and not what is normally claimed by the theory. This is grist for comparison of the normal view with other views, including Kant’s, and for the nature of the evidence that can be put forward for each.              In these circumstances should we conclude that Kant or the theory of evolution through natural selection is in some basic way wrong?    **Is the Critique scientific?**              Although he deplores the state of metaphysics and philosophy of his own day, going by history Kant can’t be said to have set either on the secure path of a science. On the other hand the theory of evolution through natural selection is regarded as a science. The facts to do with natural selection are detailed and painstaking and consists of things observable in the adult experienced world without controversy such as fossils looking like animal bones, variations in members of species and the potential amount of offspring compared to how many are seen to survive, and availability of food.. So that anyone disagreeing with the natural selection part of the theory can be accused of glossing over any proper examination of the evidence (or examples) for it presently in nature. And considerations of the problem of dilution of any variations in the general population of a species have apparently lead to the existence of another science i.e. genetics, the truth of which is demonstrated by its ability to produce some very odd life forms e.g. tomatoes tasting of fish, or mice with human ears growing on their backs etc. Etc and give the cause of many human medical conditions.  Kant also complains at the beginning of his Critique of Pure Reason that previous metaphysicians used to spin out their theories beyond the sphere of all experience and were seduced by meeting no resistance, because they could not be stopped and confronted by any experience not noticing that they never really achieved anything. This seems a very sensible observation and complaint. But then he produces a whole philosophy that does not deal with what can be found in experience but with what makes possible aspects that are supposedly necessary in everyone’s experience, without being analytic truths. [[2]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215)This also consists in reasoning which cannot be directly confronted with, or by, experience, at least in the same way as the theory of evolution through natural selection. And it is reasoning that has a motive behind it of a moral and religious sort, or the desire to be profound, or to transcend normal experience, which means there is even more reason for an independent check. This is in case it otherwise appears we are maintaining the view because we would like it to be true for those reasons rather than because we have good reasons to suppose it's true.    Let me contrast to the sort of theory Kant produces and the way that can be checked with what often happens in science.   In a normal, empirical, science some theory is generally worked out showing how some effect or circumstance can or must occur. Often, through careful examination of the experience involved it is found that this theory can’t be right, in some respect. Eventually some solution may be proposed, and in checking the experience or reality involved to see if this solution is correct, often it is again found that there is some problem. In this way we gradually get more familiar with the experience and the nature of the reality involved in our subject, and hopefully eventually progress to an adequate solution to our problem. In contrast Kant produces arguments, which are themselves obscure, which claim to be able to account for a-priori synthetic knowledge when it is not even clear that a-priori analytical knowledge is anything more than a myth thought up by philosophers. And which accounts for this supposed knowledge in a way that is also obscure. In a science there is rarely any disagreement about the body of the science. Where there is disagreement, as for example in the foundations of mathematics, the people involved in the science are still able to carry the science on, and can mostly diss-regard these disputes. In contrast, two centuries after he wrote, in almost every aspect of Kant’s philosophy, and regarding most of his arguments, people still diss-agree as to their real meaning and true nature. While there may be some merits to theories which deal with obscure subjects and which are not themselves entirely clear, such procedures do not seem a good way to try and institute a science, as Kant hoped to do.  This reasoning is full of cases where he points at some supposed aspect of experience, e.g. the necessity of causes or the requirement that space is presupposed  and must underlie our idea of the outer, and then says this aspect couldn’t be accounted for in any other way than the way he advocates. But the trouble with this, apart from the aspect being accounted for and the way it is accounted for being obscure, is that it is open to mistake at every stage. Firstly because all the other possibilities you can think of can’t account for something (a conclusion that is itself suspect because there are plenty of cases in science where things which can’t happen do, and where things which must happen don’t. E.g. the flight of bumble bees; and quantum mechanics) this does not show that the only other possibility you can think of does account for it. How do you know what exhausts the number of possibilities? Especially when you say that we can’t know ultimate reality, or things in themselves, how can you say that these unknowable things in themselves don’t account for the phenomena in another way without letting you get a hint that that is what happens, for instance by making us think aspects of our experience are necessary when they aren’t, and making us think that categories are a sensible way to organise our experience whereas some other completely different way of organising them would be more useful? Another 'possibility' might be that the whole idea of making the mind and its grasp of things essential to epistemology or philosophically basic to our handling the world is a mistake. But the real weakness lies, not in whether I can or cannot think up another alternative, but in the supposed fact that I, or we, can't think up another alternative being put forward as an adequate reason for establishing Kant's solution). The lesson of scientific procedure over metaphysical or quasi logical procedure is that there must be found  a way of deciding issues, or at least testing their plausibility independently of arguments which might seem to show what must be the case[[j1]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215) [[3 ]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215), so that such arguments will never result in more than plausible possibilities from a scientific point of view.  And again, although it is assumed by Kant and is often assumed as the basis of epistemology in one way or another, why should the contents of consciousness be of such a sort that through analysing them you can make sense of how your mind works? This doubt or question might be ruled out if consciousness is supposed totally transparent, so that it was obviously complete and couldn’t be wrong about its own workings. But, for instance, Kant does not think we can know the Transcendental subject, the I which has these experiences. But this is a central part of this subject of consciousness that is not transparent or obviously complete. And apart from that the whole of Kant’s book is obviously not transparent and obvious.  The theory of evolution through natural selection, by contrast is continually dealing with what can be found in experience, in the adult sense of what everyone will experience (in spite of all sorts of deformity), and it also involves some basic arithmetic. The theory itself, and the nature of the experiences it deals with, or uses, are not difficult or obscure at all. And both are open to the closest continued inspection, comparing the one with the other. But even here the facts can often be interpreted in terms of the theory, and then there is a suspicion that we are ‘merely interpreting them so as to fit the theory’, whereas if the theory is true the facts should occur independently and so make the theory true. It should not be the case that these facts need to be interpreted by this theory, in order that the theory could be true. This would be to make just that mistake complained of above, and to suppose that what is accidental according to the theory of evolution, is in fact essential. Thus according to the theory of evolution it is a complete accident if this theory should ever be stated or thought of.  So, as the theory of evolution through natural selection is a science, and as Kant seems to have looked on the security of scientific thought as an ideal, and hoped to make metaphysics a science, and as he condemns as not having found the secure road of a science any procedure that does not avoid continual arguments on virtually every point, according to his own ideal, we should prefer evolution above his own theory, which is not a science.              It may seem strange that after so many years of controversy Kant’s theory should have any credit left. But perhaps the case might be compared to that of a grand deep pond; the waters are murky, we can’t quite find the bottom, we can’t quite make out what’s in it, but we keep prodding away at it with long sticks, hoping that in such a grand pond we will find something interesting or of value in the end. After all the sense of life and the human condition can often seem puzzling in an equally deep but murky way. But according to evolution through natural selection, it would seem, there is no sense to life or the human condition.    **Variation and invariable laws**.  But there is another way that the empiricism surrounding natural selection can be used to undermine Kant.  It is found through experience that every part of every animal varies from example to example. If we study one of my fingers, for example, it will have a different finger print from yours, the nail will vary slightly in thickness or width. The skin in its thickness or delicacy, and whether it’s more or less clammy. The same is true of every other part of your body compared to mine. Even identical twins when compared together, are after all physically distinguishable. The same is experienced to be true of our mental characteristics. Some are calculating prodigies, some cannot add two numbers together. Some live for, some detest art, or science, or history or religion; Some have good memories or bad memories, or good or bad memories for one particular type of thing. Chemistry, Physics, Music, History, Geology, Spelling, Grammar, Literature, everyone will vary from everyone else in their abilities at each aspect of each of these subjects, and will also vary from day to day in their own abilities. It is true that some of this variation will be down to differences in each individuals upbringing, but since we apparently all vary in every respect and since our susceptibility to environmental influence is a respect it seems that we will also be likely to vary in the extent to which our environments affect our abilities and tastes (just as some people are more sensitive to cold and heat than others), and this may also vary with one person from subject to subject, and from day to day.  Similarly, across the species we will discover every type of deformity. One Person is an elephant man, another a dwarf, another colour blind, another tone deaf, another deaf or blind, another autistic, or dyslexic. One person has no sense of pain, another of fear or sympathy, or no long term or short term memory, or ability to recognise words, or people. One man mistakes his wife for his hat, another has multiple personalities, or thinks he’s Napoleon, or gibbers incontinent on the floor without any sign of understanding. Yet amongst all this variation of every possible aspect of people, absolutely no one experiences next week before this week, nor do they ever experience without changes occurring in an order. Why, all of a sudden, in this respect is there absolutely no variation at all?  There is an easy answer to this; The variation we see amongst individuals depends on their own constitution, which is unbelievably complicated, and the process of producing and sustaining such constitutions is natural and not perfect and regular. But time and its order are not produced by or dependent upon the individual constitutions of people so that the variations in such constitutions cannot affect it. So this certainty turns out to be an argument *against*  time depending on us, and not for it depending on us.              Perhaps Kantians could still maintain that time is part of our constitution in a specially inviolable (transcendental) way that is not open to the type of variation we see in the rest of it. But is it really plausible to maintain that there is such a specially inviolable part of our constitution? So that although someone may be born without a head, or without a brain as in anencephaly, or may undergo complete disintegration of their personality or ability to relate to or understand their experiences, and may disintegrate to such an extent that they cease to exist, this part of their constitution must always remain the same, so that they will never experience being forty four before they are twenty eight? And are these especially inviolable aspects of human consciousness sitting there, perfectly ordering that persons experiences for him in time and space, in such a way that he is completely deluded, or can’t recognise anything he sees, or mistakes his wife for his hat; all the time it being perfectly necessary that he is in time, that the time order is what it is for everyone else, and that his space is Euclidean?  This illustrates another problem with the Kantian view. Kant seems to suppose that if he makes the necessity we suppose attaches to certain aspects of experience depend upon our own constitution this explains the necessity. But how does he know that our constitution won’t change? An explanation of the necessity explains the necessity. Making it depend upon our constitution, on the other hand, does not explain it unless you are able to explain why our constitution is necessary, but natural selection and experience suggest it isn’t. Otherwise you are just replacing one unexplained (or validated) necessity by another necessity which is also completely unexplained (or validated). But it seems hard to see how Kant could explain how our constitution is necessarily as he supposes it is, because either Kantians do not explain or suppose there is anything that accounts for our constitution, or else Kant supposes that it is produced by things in themselves, whose nature is completely unknowable, by our constitution. If on the other hand he maintains that we could not change in these respects without violating our essential nature, for instance, that they are required for self conscious awareness, according to evolution there is no essential nature, as is illustrated by the previous examples of variation which make supposing such a thing in a form required by Kant seem implausible.  There are just  more or less wide variations on a rough plan (or family resemblance). Peoples degrees of self conscious awareness differ and may sometimes absent, but on the other hand may seem compatible with thinking you are Napoleon. Is being born without a head a violation of our essential nature? Or how much of a head? Or being born without being any good at maths? or with a tendency to mistake your wife for your hat? Where do you draw the line? And what experiments could you do to back up this assertion that our essential nature exists? This idea that there is an essential nature for human beings suggests the ‘eternal fitness of things’, it is derived from the moral feeling that things ‘must be like this’, and that if they are not there is something *wrong,*it is thisview that makes it seem variations from this state are less common than they are. But the lesson of the empiricism of natural selection is that there is no eternal fitness of things, or moral order in nature. ( Also human or living ‘deformity’ must be looked upon as a human centred judgement since even success in breeding is not marked as a good thing but only gives an adequate reason why members of that species are around. )  It was found through close examination of the natural world that this idea of the essential nature of species was unsustainable because species have blurry edges which tend to blend into each other. There is no barrier of an essential sort that stops any life form from being produced from less complicated ones by natural selection--or to stop more complicated ones degenerating.    **Time again**  (There are empirical objections to our having any idea of time prior to experienced changes and their orderings, so we don’t have any idea of time as a dimension that enables and within which change happens. But Kant seems to suppose we do by supposing it is a form helping to construct experiences and not something only known subsequently to experiences—even though he ALSO maintains we have no idea of time; that time can’t be intuited so it must be a form of experience not some thing in itself. But, it is arguable, an order of experienced changes doesn’t require time. Time requires an experienced order of changes, Otherwise we might have a million years between two experiences although nothing happens any ware.)  An obvious objection to being able to experience time out of order is that its hard to predict e.g. the result of a horse race. So its hard to see how someone could arrive at the result, before it was reached in the normal way, in order to experience it first. But, equally, how could someone, upon the basis that everything objectively experienced must conform to laws dependent on their minds come to the result of a horse race as really experienced? The result will not depend on laws that are simple and obvious to self-aware consciousness but will depend on laws applicable to all sorts of minute, and perhaps obscure facts, such as that the favorite had a virus, or was fed a bun. So somehow, the mind must be applying all these behind the scenes laws, and their unknown, but hypothetically knowable objects in order that the experienced result could be seen as their outcome...if we decided to take the, often impossible attempt to completely understand the situation properly, so we could show why the actual result of a horse race was necessary and the only possible one . But does a Kantian consciousness have to come up with that one state at every instant, although it does not know most of, or an all but insignificant number of the intricate details of, any situation that will go to decide the result. Otherwise any state it experiences as real might be inconsistent with any other state it experienced as real given the necessary application of those universal laws which Kant (arguably) supposes are made a-priori necessary by the human mind. So if the mind produces what is experienced entirely from its own faculties and resources, unguided by the independent world of things in themselves, it has to perform an infinitely complex task, without consciously having most of the information, and predict the result of the horse race, all the while, consciously, being quite unsure what will happen. If on the other hand it is guided and helped by the influence of the world of things in themselves which somehow makes sure it wont go wrong, then how is that independent of the mind influence something that can be relied upon because it’s dependent on the mind a-priori? At least Berkeley has an infinite mind taking care of these relationships, while we only have to find them and can conjecture them through experience. If it is said if things in themselves produced occasions for experiences which were other than required by the mind a-priori the mind couldn’t experience them, just as someone wearing blue spectacles can’t experience any colors that aren’t blue, Similarly Radio can’t produce anything that isn’t sound, or that isn’t constituted for it by radio waves in the right way, still this doesn’t stop radios from having terminally bad reception or dropouts. Or from being destroyed by things that aren’t sound such as violence or heat. And again, if there is any influence of things in themselves, on the mind, then according to evolution through natural selection, organisms that tend to register and reproduce the nature of that influence may have a survival advantage, because it is the nature of the thing in itself that effects whether it survives or not, not the nature of empirical experience, as supposed by Kant, because that is only what is produced by the mind. What, in general, would be the survival value of registering aspects that aren’t the nature of things in themselves?  Games of chance, such as throwing a dice seem to show that experiences do not have to appear determined, even if we nevertheless think they are determined, and they actually are determined. But if experiences don’t have to appear determined, as with dice, or with the world of ignorant peasants, who have to pray to spirits for help in everything because they don’t know how anything happens, or Australian aborigines who I saw once in a television program an explorer reported it was impossible to amaze as they found everything equally mysterious, then it is silly to claim self conscious experience of an independent world requires it to be determined. It is just that through abstract consideration of your concepts of self consciousness and  external reality it seems to you, a-priori, that these wouldn’t be possible without a deterministic world of continuing objects, in spite of the fact these other people are unaware of the world being like that. But even if we couldn’t be self conscious without X, this does not show that X depends on our consciousness, because it might be that our consciousness depends on X. So again X couldn’t be relied on because it depends a-priori on the mind, and it couldn’t be relied on because the mind requires it, because, perhaps it will stop and the mind will be degraded, maddened deranged or also stop. After all we are all going to die. It’s a law.  But then again, who’s mind is this we are talking of? Is it just any old mind, that might be completely faulty? Or is it an ideal mind? ‘Ideal’ meaning ‘it works properly, so as to make the independent world and unified self-consciousness possible. If it’s my mind how can I know there are any other minds, as my world depends on the a-priori ordering of my mind, and can never reach beyond this to any things in themselves, or to anything beyond my own a-priori dependent orderings? Then again, if its some deranged mind, on what basis do you decide that this ‘derangement’ is wrong? Perhaps I’m deranged but happier. Perhaps you are self conscious in the fullest possible sense and driven to despair by a fully deterministic world you can’t escape from. –It is the understanding of the world as an independent self-sufficient, autonomous system that explains how people can be mistaken about it and so may be less successful in handling it. But to say this is a condition of ‘our understanding’ is to deny the self sufficient independence of the real world you say is required.  Then again people can experience disruptions in the normal course of events, as in watching a film at the cinema, or as when wearing some artificial reality apparatus. Films can be run backwards. Or people may have drug induced experiences of 'alternative realities',  Exactly how much of this sort of disruption is possible before you cant be self conscious? But these sorts of disruption are the more obvious sorts of thing that universal causation would rule out, although they actually don't seem ruled out by what is possible in your experience. If the mind only supplies the form and not the content of experience, it was the content that we were worried about. "form without content is empty". What is to stop occurring strangely; if the mind only supplies the form how much strangeness is still possible? And wasn't it that possible strangeness we were first worried about, or questioning if it could be possible?    **Space again**  But how is it then that with all these cases of perceptual and mental derangement no one ever experiences or imagines a space that is not Euclidean? Surely if objective space is Euclidean (which, however it isn’t) and our faculty of knowing it is subject to getting things wrong to such an extent, someone should be able to see a space that differs from Euclid in some respect. So perhaps my ‘simple solution’ isn’t quite so simple after all?  It seems, from the position I am taking, which is that of the world seen through the eyes of evolution through natural selection, I must agree with this complaint to the following extent; In so far as spatial relationships are independent of our constitution they are unavoidable, but in so far as our perceptions of these relationships depends upon our own constitution they may vary. Which is the normal plain girls view. And the same applies to time relationships.  For instance, is it really the case that no one can imagine or experience an apparently non Euclidean space? Euclidean space is usually defined as that explored in Euclid’s thirteen books of the elements, but those books do not deal with perspective and visual space is subject to the effects of perspective. So, on the face of it, visual space does not *appear Euclidean*.  It is true that, according to Euclid, the angle from a point between two parallel lines to both lines, will get smaller the further these points are along the parallel lines. So the lines, although they are parallel, will look to converge as they move away towards the horizon. But this seems to mean that any figure does not appear with the relations it actually has, because they must be distorted by perspective.  If, for instance, I see a pair of parallel railway lines, I can check that they really are parallel, as precisely as I like, but they will appear to meet at the horizon, or at least, to approach one another.  It may be that we immediately check ourselves and know that they don’t meet at the horizon, and suppose that they can’t meet at the horizon, because they are parallel, but that is not *how they appear*. Or perhaps it will be said that parallel railway lines do not appear to be parallel since they appear to meet. But then how is it that the angles on each sides of a perpendicular drawn between them are equal? So it seems that either the appearance of visual space does not appear Euclidean, or else the appearance is Euclidean but the objects in it are warped by their relation to the viewer in such a way that they appear differently from their true Euclidean relationships (which is the effect of perspective). The first case is what I am maintaining. In the second case the relationships of these objects do not appear correctly as their proper Euclidean relationships require, this seems pretty close to saying that the proper Euclidean relationships do not appear to us in a normal perspectival view of space. So that again visual space does not appear Euclidean.  It is natural to suppose that our knowledge of space is, at least to some extent, based upon the relationships we experience between objects. It is indeed a peculiar Kantian view that we can, or rather do, know space even when all objects are removed from it. This Kantian view, by contrast with the first sentence of this paragraph, would seem to mean that ‘our idea of space’, which is according to him Euclidean, does not, or may not, conform to the way objects appear in it in experience, since they are subject to visual illusions. Perhaps it is thought that it is precisely this ‘our idea of space’, which is independent of experience, which enables us to determine what is and is not a ‘visual illusion’, and fix our idea a-priori so that geometry can become a science. But this supposes that *physically* experienced space must conform to our idea of space, even though visually experienced space does not have to, and even though this ‘our idea of space’ is visual, and even though *it turns out that physically experienced space does not conform to this our ‘Euclidean idea of space’, because physical space is not after all Euclidean.*  The case that we see a Euclidean space actually is weaker than it seems on a normal perspectival view because in the psychology of perception all sorts of visual clues are interpreted in order that we judge distance in space, which are often misleading. For example the moon can sometimes look much bigger than at others because it is near the horizon. Then again there are mirages where cities that are below the horizon can appear in plain view due to atmospheric disturbances.  The more plausible truth (which is not to say that I think it’s a complete solution) seems to be that we based our geometry on a very simplified form of experience, e.g. a flat piece of paper, and even then we flatten it out and so take an idealised version of it. Since it is so simplified it is hard for us to mistake ‘this type of object’ for some other object and since it is idealised we are reluctant to admit anything as a fare instance when it doesn’t have these properties. And, perhaps, if people do claim this object has different properties from those we know it to have we say they are miss understanding what we are referring to. Similarly to a case where they have miss understood a definition. In this simplified form we work out certain relationships and properties. We then apply what we have learnt to space in the full blown sense, and find that not only do the same relationships seem to hold, so that if we accurately measure the angles from two points a known distance apart to another object we will discover that this object will be proportionally the same distance away from the first two objects as it should be according to our simplified view. But also we can use this method for determining when an appearance is mistaken. It also seems, going by our simplified view, taking as our example parallel lines again, that this is how such lines in space *must* be, in spite of the fact that they don’t appear like that in direct visual experience. Since our (wider than visual) experience confirms this view we come to think that our simplified view is how spatial relationships *must* be.   We can only do this, however, because our simplified view conforms to the relationships objects are independently experienced to have, and not because it directly applies to the appearance of these objects in experience, and not because there is a guarantee that the relationships objects are independently experienced to have must, or will, conform to our simplified view.  (Incidentally, we cannot really just include another of Euclid’s books that does deal with perspective with the previous thirteen books, and claim that it is just a matter of convention if we exclude this book and suppose visual space is not Euclidean, or include it, and suppose it is Euclidean. This is because the point of saying ‘space is Euclidean’ is that space is subject to an invariable set of truths or laws stemming from the truths or laws Euclid sets out in these thirteen books. But although there may also be ‘laws of perspective’ these laws are more subjective, and more open to the variation of other influences and perceptual illusions than it is supposed the laws of Euclid’s thirteen books are.)  There is another possible aspect to the above that may have contributed to the belief that ‘space must be Euclidean’ and to the idealisation of its properties; It is my opinion that we often make inductions on a naive realist basis. So, we will suppose that if there is a different result from two different situations, there must be something different about the situations. This is because, as naïve realists, we think that the contents of a situation ought to produce whatever the situation produces, and we can’t see how this could happen differently in two situations if the contents of both situations are identical. But pure unadulterated  spatial relationships have the thinnest sort of being imaginable, as is illustrated by my next argument. It is therefore easy to wonder ‘how there could be anything different between them?’ because there is, apparently, nothing for the difference to arise from. Consequently what seems, or is proved, true on a flat piece of paper must be equally true of all spatial relations, and space must *be* Euclidean, in spite of the fact that it doesn’t appear like that. And this necessity is re-confirmed by the fact that our normal terrestrial measurements, at normally attainable speeds, confirm this opinion.    As proof that space is a necessary part of our mental fabric Kant says that we can imagine an empty space but cannot imagine no space at all. But this seems to make the same mistake that a friend of mine kept making when we were having an argument as to whether it is possible to imagine an edge to space. The mistake of thinking imagining blackness (which is an absence and not therefore something) must be to imagine something. Kant, like my friend, does not think it is possible to imagine an edge to space. He thinks that it is both impossible and necessary to suppose there is a limit to space. He views this ‘antimony’ where our understanding is inevitably caught in such a paradox as illustrating how its basic concepts are not designed to deal with such questions which seem to be about ultimate reality. He thinks our understanding is bound to get into these antimonies because it is only designed to deal with possible objects of experience, not things in themselves. But it is quite possible to imagine an edge to space.  There are two reasons which may each make it seem impossible to imagine an edge to space, and they work together so that the combination makes it seem even more impossible. The first is that when we normally imagine, or look at an edge, we look both sides of it; for example the side of the table that comes to an edge, and beyond the edge where there is no-longer a table. But we can’t do this if we are to imagine an edge to space because in supposing we are looking at something beyond the edge, we would be supposing a space beyond the edge of space we are trying to imagine, and so contradicting ourselves. The second reason is that we never really make up our minds as to whether we think space is something or nothing. To illustrate this, let us suppose that space is nothing; in that case presumably ‘it’ (emphasising the inverted commas) doesn’t exist. But in that case we are contradicting ourselves if we have any trouble with *the existence of space* whether to infinity or not. But we don’t quite like to say that space is nothing and be as consistent about it as this, so we still keep thinking of it as nothing, without accepting the consequence. So let us instead try supposing that space is at least something. An argument illustrating the plausibility of this, and at the same time the previous point, might be; suppose two pairs of identical objects, one pair a foot apart, the other pair two feet apart, if there is nothing by which they differ they must be exactly the same. But they are not, one is a foot apart, the other pair two feet apart.  So let us suppose that space is at least something, and perhaps that its existence is to do with the way objects are kept apart, or perhaps that space is the existence of distance between objects (because time might also be said to keep objects apart). Now suppose that there are only a finite number of objects in the universe and that you are one of the outermost objects. In that case there will be space between you and the rest of the objects in the universe because there is a distance between you and the rest of those objects. But there does not have to be any space further out than you from the rest of the universe because there are no objects further out or distance between them and you which would  required space to be. To the natural objection ‘what happens if I move further away from the rest of the universe, or what is to stop me from doing this?’ The reply would be ‘perhaps you can move further away from the rest of the universe, but this does not mean you must be moving into an already existing space. It could mean simply that more space is created between you and the rest of the universe.’  My friend kept saying ‘But what is outside it? You say nothing, but that’s something!’ (saying nothing is something is just about as clear a contradiction as you can get, except that in this particular case we feel uncomfortable about accepting the fact) eventually I asked him why he thought that not seeing anything must be seeing something? (which seems to be Kant’s mistake) I asked him to suppose he was at the bottom of a pitch black cave, with the lights turned out, and then asked him what happens if he gouged his eyes out, why that must mean he was still seeing something? Eventually he did seem to agree that there was something fishy about supposing you cannot see anything *must* be to suppose you are seeing something.  This possibility of imagining an edge to space is done on a realist view, it is exactly this view which according to Kant makes it both necessary but impossible to imagine such a limit.    There seems a parallel between arguments to the effect that we can't have, or make sense of space without pre-supposing it and the case of the evolution of the eye. The eye, apparently, gave Darwin sleepless nights as, it seems, what use could half an eye be? But if half an eye, or a quarter of an eye couldn't be any use, then how could an eye gradually evolve?  The similarity, it seems to me, could be put in the parallel questions;  "What could be an eight of seeing something?"  And  "what could be an eight of spacial awareness?"  But, as in the case of the eye, suppose a maggot who has cells that are sensitive to light. If light shines on them it is inclined to wriggle in a certain way. If this wriggling tends to make the light stronger, or weaker, either might have survival consequences. But at this stage they will be pretty hit or miss. If a super maggot evolves, through these advantages or disadvantages, that can determine more accurately how to wriggle so as to make the light stronger, or weaker then this could have more marked survival consequences, which may lead to further 'improvements'.  But this wriggling to make the light grow stronger or weaker, just as it is a very rudimentary form of 'seeing', similarly can be a very rudimentary form of a sense of direction, which is a rudimentary pre-requirement for awareness that is of a spatial type.  So on this view it seems possible for an organism to evolve spacial awareness in parallel to evolving sight (but there are other dimensions to spacial awareness than just sight--Berkeley, for example thought that visual space, and physical space were two separate things that don't share anything, only linked by experience (I think)). But it seems doubtful if there would be a survival advantage in light awareness, or spacial awareness, without these being features of a situation that exist independently of the organism. In this sense, space is a pre-requisite for this evolution of spacial awareness. But saying there needs to be space in order for spacial awareness to evolve, is not saying  organisms need to pre-suppose space in order to evolve an awareness of it. It is the environment, not the organism, that needs to have spacial dimensions, if evolution of awareness of it is to occur.  It is however obvious on thinking about it that a partially sighted person is better off than someone who is completely blind, and that someone who is kin-aesthetically and visually confused-which is quite possible-is worse off than someone who isn't. And worse off the more confused they are. So we can make sense of having an eight of sight, or an eight of spacial awareness.    But there is another dimension to the question of space, because empty space is easily confused with 'nothingness'. This has the consequence of making us think that, since there is nothing there, it can't possibly have different properties. Kant seems to avoid deciding whether empty space is something, or nothing by supposing it is a mode of presentation, or form of intuition. Because its a form of intuition we can't get rid of it, so he supposes we can't imagine no space, but can imagine space empty of objects. But, if empty space is nothing, then it can't have any properties, and there can't even be an 'it' that doesn't have any properties. If space does have properties, then we may be able to learn about them. In the case of geometry what they did was start with basically obvious properties of obviously empty space and work out the consequences--I suppose!!--These properties, it turned out could be used to determine actual relationships between objects even though they don't appear as in geometry, because they are distorted by perspective, or mirrors, or bad eyesight.  **Time again**  Time is also, according to Kant, a mode of presentation, or form of intuition. But according to Hume, and the ancient atomists, there is no such thing as time. According to Hume, there is no impression of time, and so we can have no idea of it. What we have impressions and ideas of are changes and the order they happen in. 'Time' is something that is parasitic on this. To suppose we have an idea of something, an aspect or form, that then governs, underlies and makes possible experienced changes and their order is just what we don't have. An unchanged object may remain unchanged as other objects surrounding it change, but that does not mean it has after all undergone a change. Other objects have undergone changes, we can experience that, but that does not license us to draw a conclusion beyond them to this other object and say it must have undergone a change, although we haven't noticed any such thing. There is a tendency to change time from something subsequent upon experienced changes, to something that governs changes and makes things contemporary, or not, but that is a notion there seems no experience to support.    If there is no such thing as time this could explain why the objective sequence in which things happen can’t be got out of order. There is nothing else arranging them, and nothing beyond the order in which they happen. So, if something happens after, or before, something else, that is the end of it.    **Hume and causation**    Kant’s book developed to a significant extent from his response to the causal analysis of David Hume (according to the Prolegomena). Hume seemed to show that it is impossible to base the nature of the causal relation directly on the contents of experiences considered as themselves, or on particular experiences individually considered. This, on the face of it, again seems inconsistent with the nature of the world supposed by evolution through natural selection, existing quite independently of ourselves for millions, if not billions of years, a world whose constituent occurrences are self sufficient to produce the evolution of life to its present state. But if something appears itself sufficient this seems inconsistent a) with it being impossible to see how anything could itself produce anything, or b) with it having to rely on anything else e.g. some mental a-priori capacity.      But, broadly with this in mind, there does seem to me a way we could suppose a Copernican revolution to do with causes, *based* upon Hume’s proof. And a revolution which does share the Copernican orientation away from the importance of the subject.      Hume analyses experience and can only find in his experience of the causal relation, succession, contiguity and constant conjunction. He also thinks he has to account for the necessity of the relation, a necessity he cannot find in objectively considered experience.  But none of these considerations provide his proof that there *could not* be any objectively discoverable connection between cause and effect. The most direct part of his proof of this relies on the fact that the causal relation involves an essential difference between cause and effect, and that consequently we must certainly look beyond the idea of the causing object when seeking to draw a conclusion to the effect produced. But, as he puts it “There is no object, considered in itself, that can afford us a reason for drawing a conclusion beyond it.” And there is no way we can ever draw a conclusion to the effect as long as we consider these objects in themselves and never look beyond the ideas we form of them. This also involves how he demonstrates there cannot be any objective necessity of the relation discoverable in experience.  The objection then is that; “There is no object, considered in itself, that can afford us a reason for drawing a conclusion beyond it.” The Copernican revolution would be instead of supposing this is an *objection* to realising any objectively given causal relations, to suppose it actually states the necessary condition required in order to make sense of such relations, for them either to appear to be , or to be, objectively connected; *we must try to avoid drawing conclusions beyond objects*. If we do not have to draw a conclusion beyond them in seeing how what occurs in a situation could be produced, they must appear sufficient to produce those occurrences. This would be taking the other end of the stick, I think it will also involve a re-orientation away from the subject, but it seems to be ruled out if, as Hume and also Kant suppose, there is an essential difference necessary between cause and effect. But is this necessarily true?  If we look at any perceptual object and then transfer our attention to any property we find with it, this certainly seems to involve a difference that seems essential, in this sense; If we concentrate on the perception and never look beyond the idea we form of it we will never get to the property. Or if we concentrate on a feeling of touch, for example, and never look beyond that feeling we will never consider, for example a ball, and that it moves when pushed by our hand—which is an instance when that feeling may occur. But in that case, since we are taking the other end of the stick, we will not concentrate on these aspects of the situation.  What aspects of factual situations could we concentrate on which could mean we could avoid drawing conclusions beyond them, as whichever situation we are considering develops? We could not concentrate on the logical idea of any experience because all distinguishable experiences are logically distinct from one another, in the sense that through considering the idea of any such one you will never (analytically) reach the idea of any other whose idea is outside that of the first. But it seems that we could concentrate on those aspects of the situation that seem to continue as the situation develops, because if they seem to continue, perhaps they do continue through the situation, in which case we wont have to draw a conclusion beyond them. So we can concentrate on a perceptual somewhat, and see if it continues through the situation, and upon types of occurrence, and see if they continue through the situation, and upon the conjunction of these two things, and see if that continues through the situation.  For instance, suppose a bucket of water and a ball. As we push the ball into the water the volume of the water seems to continue, as does the volume of the ball. The solid property of the ball seems to continue, by which other objects are found to be excluded from the area of its shape, as does the heavy property of the water, and its fluid property, by which it sits as low as possible in the bucket, and is easily pushed out of the way, respectively. So, as the ball is pushed into the water, volume of water plus volume of ball is greater than volume of water alone, and the water level rises. Since, apparently this example only involves a rearrangement of these factors, which continue, there is, so far, apparently no new state or essential difference involved between this cause and effect. We can also measure the various factors to check our opinion that they remain and continue through the situation. Insofar as there is no difference in the end result that cannot be produced by the continuation of these factors, those factors (together in that situation) appear sufficient to produce that result; we do not have to go beyond those factors in seeing how the result could be produced. So the contents of the situation will not appear to have anything to do with us, insofar as, in the above way, the contents of the situation appear themselves capable of producing what occurs as the situation develops; consequently they, and our understanding of the situation, do not appear to depend on us.  It seems to me that Hume has just got our basic idea, or concept, of cause and effect wrong. He is fooled into this firstly by the terms ‘cause and effect’ which suggest we must be dealing with two essentially separate states, secondly by the fact that all experiences are logically distinct from one another and logical inference is the most certain way he knows of viewing an inference as justified, thirdly due to the Aristotelian idea of substance which supposes properties result from or are the expression of the inner essence of an object (although they involve what happens to OTHER objects), and fourthly  because he concentrates on the question ‘how do we know?’ that there is anything objectively existent when we suppose a property exists. This is not the question we normally concentrate on when, as the naive realists he agrees we all normally are, we try to understand what happens in a situation. Instead what we concentrate on is on trying to see how those factors, or aspects, discoverable in the experience of a situation could, themselves, produce or bring about what we experience to happen in the situation. And then, if we can do this convincingly, we suppose that is how what happened in the situation must have come about. So when we are faced with a property, or type of occurrence, we will be inclined to trace it about in just the same way as we do a perceptible somewhat. And when we try to understand the existence of our property, and whether it can objectively amount to anything, we will view the situation where such a property occurs in just the same way we are using that property to explain the bigger occurrence it is found in. I.e. we will see what characteristics, objects and properties are observable in the situation of the appearance of this property, and will try to see how they can continue, and be re-arranged so that their continuation produces that property.  There are two immediately obvious complaints against this. 1) we are getting involved in an infinite regress, without getting any nearer to an ‘ultimate solution’ of what such a property could consist in. But, for instance, the transition from solidity to electrical phenomena to explain solidity, does not leave us in exactly the same theoretical situation, similarly the transition from gravity at a distance to the bending of space/time does not leave us in the same theoretical position. These progressions may not solve ultimate problems, although perhaps everything is ultimately bent space? But they show our empirical investigations are not stuck always at the same point. 2) We seem to have an a-priori principle!! But 2) The objective is to try and see how the contents of a situation could themselves produce what occurs. If we succeed in seeing how the contents could themselves produce what occurs, the situation appears objectively self sufficient in this respect. And so it need not appear to have anything essentially to do with us. This is not normally the characteristic of an a-priori principle, which is normally thought of as something known independently of experience and so a principle that needs to depend in some sense upon our mental grasp, or upon a foundation of our reasoning. The foundation of our reasoning in this respect is to see how an objective, self sufficient world is possible, upon the basis of experience, so this world will not depend upon our reasoning. In an attempt to meet Hume’s objections to this being at all possible we have had to accept what he says needs to be done, but can’t be done, as what must be done.  We are also not guaranteed, by the above attempts, to succeed in being able to see how the contents of the situation themselves produce what occurs. It is also not guaranteed, supposing we do succeed, or do to some extent, that our explanation is ultimately correct, and that what appears to be the way a situation produces its result, is indeed how it actually does so.  As another example let us suppose we see an object, that disappears behind another and then re-appears. If we are trying to account for what is experienced to occur in the situation from the contents of the situation, and the way to do that is to avoid drawing conclusions beyond those factors we can discover in the situation as it develops, then if we suppose the object continues when it disappears we don’t have to go beyond its original state, but can use that state to produce the later appearance in the situation. Since we are supposing that it is that original state itself that produces those subsequent appearances this is not at all the same as supposing just that we would experience something similar to the original appearance if we had looked behind the masking object when our object disappeared.  It will be objected that on the view that we see independent objects ‘in themselves’, we will be driven by the understanding of the perceptual situation this leads to, to suppose that we only see fleeting perceptions, separated from the object by a causal chain, which cuts us of from the object itself. So by supposing we see things in themselves we have to admit that we don’t see things in themselves, so our original supposition is shown to be false, and we are involved in a contradiction. But I submit that this does not show the situation is incoherent. What would show the situation to be incoherent, and so not a viable situation is if it is incoherent to suppose a causal chain from the object in itself which produces an effect, which on being taken for the object in itself allows us to work out how that object itself behaves, and how on supposing what we see is the object itself, we can appreciate how a causal chain is produced from that object itself, producing an effect in us which can be taken for the object in itself. This may seem complicated, but that shouldn’t be over worrying to philosophers. This is something that is true of every picture produced on a camcorder of the object it is filming as it is filming it and it does not seem incoherent there. And there is not an infinite regress involved but only an ongoing process.  It is a standard objection of Berkeley to our knowing an independent object that our experience of it will differ if it is a different distance from us, if we have the ague, if one hand is hotter than the other; and in short, if our perceptual situation alters regarding the object our perception of the object will differ, so none of those perceptions *is the independent object.* But according to the present view the way an object will appear to be independent is if we can avoid drawing any conclusion beyond it through the different situations (we hope) it appears in. So we will be trying to see how the variation we see as the (hoped for) object passes through different situations is accounted for, or produced, by the variations in the situation of that object. If we can suppose this, then we can suppose that all the experiences we have of this (hoped for) object are produced by the same state; which we thus don’t have to draw a conclusion beyond in accounting for all these experiences. As this is the way such an object can appear independent it is a mistake to suppose that knowing the independent existence of such an object must consist in grasping its absolute size, or colour, or heat, and that if we can show that any particular such perception is not the absolute one we can’t know of such an independent existence (or object), as Berkeley supposes.    **The idea of reality**  So this idea of reality is completely different from what Kant and Berkeley suppose is meant by saying experienced situations are real. Berkeley seems to think this means something like ‘it is not an illusion, and if you are appropriately situated to such real objects the appropriate ideas of them will appear to your mind; perhaps, so as to lead you to correctly expect the other ideas of that object that you could have, as are usual to it’. Kant seems to think that empirically real should mean that although what is experienced is not the thing in itself it appears within your experience in such a way as to conform to the requirements of the various faculties of the understanding in the synthetic progress of their construction of your experience. This synthetic progress, or process, being occasioned by the unknown thing in itself in some unknown way. Neither of these make the extent the contents of a situation can be seen to be sufficient to produce what happens in or is experienced to happen in the situation, the mark of the extent to which the situation appears real; i.e. self-sufficient and independent (independent *because* self-sufficient).  Further if the contents of a situation appear self-sufficient, they can’t appear to require the support of anything else, e.g. a mind or ‘our understanding’. So although we may look on situations and try to see them as, or see how they could be, or appear, self-sufficient, this is not to try to see them in conformity with a requirement of ‘our understanding’. Insofar as the contents appear self-sufficient they will make any attempted reference to our understanding of them depending upon the conditions of ‘our understanding’ appear redundant.  This brings us to generality. It will be said that facts are not general, but much of our understanding is. Where does this generality come from if not concepts and the mind? But I think it comes from real explanation. If we are trying to see how the contents of a situation produce what occurs, then if we have another situation indistinguishable from the first, then it seems either we must get the same result or else there must be some difference in the situation after all. Alternatively if we are trying to avoid drawing conclusions beyond factors as situations develop this means that we will be able to construct a variety of situations from the same factors. (there are various ways generality and simplicity can come about).  Evolution through natural selection works by supposing the materials of the world re-arranged into forms, some of which are capable of re-arranging the materials of the world into other forms that are copies of their parent forms (very basically). The ancient atomism tries to suppose indestructible basic entities out of which all experienced states and alterations can be formed by re-arranging them. It is noticeable that at least three of Archimedes scientific theories involve a balance. The lever, the pulley and floating bodies.      If ,according to Hume ‘anything can produce anything’, or, turning this around, ‘it is impossible to see how anything could itself produce anything’ any explanatory character we find in experience must be something that is *added to* the ‘raw situation’ (if such a thing exists), so facts become a product of their interpretation, insofar as they all have such an explanatory character. But if instead of this we are trying to avoid drawing conclusions beyond objects facts don’t need to change, on the contrary, as we understand the situation better we just get clearer on the same old facts, and get rid of aspects such as absolute space, or God, we thought were necessary for handling the subject, but which can’t be observed. Perhaps it is useful to compare the case to the way any unfamiliar situation gradually becomes familiar and better known e.g. an unfamiliar building, as we become more familiar with it..    [[1]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215) Bertrand Russell says in ‘Human Knowledge its scope and Limits’ that it would have been more appropriate for Kant to have claimed to have effected a Ptolemaic counter revolution in Philosophy. In his commentary of Kant’s Critique Sebastian Gardner also notices that the orientation away from the observer is not something shared by Kant’s revolution. Nevertheless this does not stop him from continually referring to Kant’s ‘Copernican Revolution’. He seems to think that because we can describe both the pre-Copernican view and the pre-Kantian views as mistakes dependent on the observer this means it is sensible to claim they are the same, although the reasons for supposing they are mistakes are of completely different and opposing sorts.  [[2]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215) I’m afraid I can’t quite tell which is suggested, I don’t think either type of suggestion solves the problem and would entitle us to suppose we have a-priori knowledge of the required sort. But I would like to know how these suggestions differ from Hume’s view that even though there never was a triangle in nature, the propositions of geometry would remain for ever certain. The reason being that these propositions, according to him rely on an intuitive comparison of ideas, i.e. what is in our own brain, and not on relationships that can be independently presented to us in experience. It is true that Hume’s position seems to benefit from the lack of that transcendental aspect to the situation, and this is a difference, but as far as I can see rather than guaranteeing such supposed knowledge this just opens up another possibility where something could go wrong. Mr Palmquist says that this transcendental aspect Kant regards as a brute fact about humans, but according to natural selection there are no brute facts of this sort there are just closer or wider variations which in this way form a theme.  [[3]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215) A possible exception to this is mathematics. Mathematicians have procedures they can agree on to see if one of their pieces of reasoning is correct. This is not true in philosophy where endless arguments ensue. And it is not true of Kant’s reasoning’s.  When mathematicians apply their reasoning’s to nature, although they are often incredibly successful, they still generally regard themselves as looking to nature in order to see if they are right.  [[j1]](https://www.blogger.com/blog/post/edit/9145067226569619129/5755997932254543215) |