

PHILOSOPHICAL LECTURE

TIMES, BEGINNINGS AND CAUSES

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PHILOSOPHICAL theses sometimes suffer damage from too much success. For reasons of his own the philosopher makes some general diagnosis. As it might be: that all logical truths are tautologies. He creates such conviction that his statement gets to be taken, not as a substantive claim, but as in some way true by definition. Such an over-success happened to Hume's observation that a causal relation is not a matter of logical necessity by which, given the cause, the effect must follow. This got such a hold that it is sometimes argued that some objects (I follow Hume's usage of 'object') cannot be causally related, just because there is a logical necessity of the one, given the other. In this way Hume's substantive philosophical thesis has come to be seen as if it had been a partial definition. I don't think that that was his intention. True, he would have rejected counter-examples. But he would have argued against each specifically. Certainly making a definition out of his diagnosis is an uninteresting move.

Now here is a seeming counter-example, at least on widely accepted views. Friction produces heat. What at first sight could be a better illustration of Hume's own thesis? For couldn't you imagine it producing cold instead? But now we are told that heat is a state of increased excitation of molecules. Well, given that the molecules go on existing—and unless they do how can there be friction? for things would crumble away at the mere attempt to rub them together—given that they do go on existing, how then can they fail to be in a state of increased excitation from friction? For that is the rapid motion against one another of two juxtaposed surfaces; hence there will be a mixture of molecules of either object in some places and this must involve a lot of extra banging of molecules upon one another.

So if that account of heat is right, this will be a counter-example to Hume's contention that the ideas of cause and effect are evidently distinct and that 'the power by which an object produces another is never discoverable merely from their idea'.

For the ideas of friction and heat apparently turn out not to be totally 'distinct'. Are they then not to be *called* an example of cause and effect? That would be the move marking the over-success of Hume's thesis—a stultifying move. Or are we to say that even if heat is increased molecular excitation, the idea of heat is not the idea of increased molecular excitation?—but Hume thought it was the objects that were cause and effect that could always, without absurdity, be supposed to occur one without the other. Here we stumble on the problem of description, which offers us difficulties in formulating Hume's discovery. It is after all a careless use of words to say 'causal connections are not logically necessary' because causal connections are between things, events, and so on, while logical connections are taken to be between suppositions, or predicates. How then are we to formulate the alleged always non-absurd suppositions? We can always frame descriptions of particular causes and effects, which *are* logically connected.

Hume himself avoids this difficulty. He puts the matter like this: where we have a beginning of existence, and a cause of it, there is no contradiction or absurdity in supposing the one to occur without the other. Thus he continues to speak of suppositions—proper subjects of logical relations—without specifying any class of propositions which in his view are always non-contradictory.

But even though we can state his thesis as a generalization without running into the description problem, we cannot be satisfied to leave it at that. Such a general thesis requires not only particular instances illustrative of it, but also a certainty of its being possible to frame the proposition stating the particular instance of it in every case.

To repeat: we can always frame descriptions of particular causes and effects such that the descriptions are logically linked. For example 'Something which caused an explosion occurred' and 'An explosion occurred'. Now that fact surely cannot damage Hume's thesis! Still, how are we to state the thesis with reference to particular cases? It will be useless to say: *some* statements of the occurrence of the cause and non-occurrence of the effect it produced will be non-contradictory. For that sort of move, were it effective, could be used to show that there are no necessary connections of any sort, no necessary relations between propositions or numbers for example. For, just as we can always form a description of a cause and an effect such that the one logically entails the other, so we can always form accidental

descriptions of, let us say, mutually entailing predicates, which do *not* entail one another.

The evasive generalization may be put like this: in general, whatever event *E* is in question, the cause of *E* might have occurred and *E* not have occurred. That is not to say 'For every event *E* this might have been the case: the cause of *E* occurred and *E* did not', but rather 'concerning the cause of *E*, it might have been that *that* occurred and *E* not'.

That formulation suggests that there is some description (or: are some descriptions) of the cause, and also of the effect, which are not external, artificial, or oblique but which rather simply present the cause, or the effect (in any particular case) in its character just as a happening. Descriptions which convey the physical reality of the thing that happens, and do not get at it by some other means such as 'the event mentioned in such a place', or 'the (prominent) event which took place in such a room at such a time'. 'Friction' will be such a 'physical description', as I shall call it, and so will 'heat'.

However, it may very likely be argued that 'Friction produces heat' gives us no falsification of the Humean principle. For there are both empirical investigation and theory coming between that bare statement 'Friction produces heat', which is the product of the most elementary observation, and the idea that the molecules at the surfaces of the two objects suffer increased excitation when they are rubbed together, which is heat. That is true: but then how are we to understand Hume's thesis? Is it to be taken as saying only that a rudimentary understanding of the objects which are causes and effects will never yield a necessary connection? That so long as we remain ignorant of the nature of things, we will find no logic in the sequence of events? That would not be too impressive. A proper physical statement of the cause will never logically yield a proper physical statement of the effect—that is the thesis. If so, then friction producing heat, on being properly understood, will also be a fair counter-example. It cannot be excluded on the ground that some empirical investigation has gone on before that formulation is reached. For the investigation was into the nature of this cause and this effect.

The description problem is a deep one and I will beg leave to go no further with it here but to assume it solved. Certainly if it can't be solved, Hume's primary discovery was nothing. I believe it was a great one, a great correction of false philosophic assumptions. But also, that it was not true without exception.

I do not myself accept the counter-example I have given, because the explanation of heat seems wrong. At very high temperatures the molecular bond is dissolved—so at best some reformulation is necessary. (And think of the radiant heat in the interior of the sun: how absurd to say that *that* is not heat.)

But here is a genuine counter-example. I find an object in some place and ask how it comes to be there. One partial causal explanation would be that it travelled there from somewhere else. Call the place it was at before 'A', the place where it is now 'B'; our causal explanation is that it went along some path from A to B. As opposed, that is, to arriving at B from A in some other way. And also, as opposed to its coming into existence at B. But travelling from A to B necessarily involves being at B—even if only for one point of time.

Suppose our object turned up at B after having been at A, but without traversing any path from A to B, then it would be empty indeed to call 'It arrived at B from A' a cause of its being at B. 'It was at A before' might state such a cause, but not 'its arriving at B from A', for that just adds the description of the effect to the description of the cause. Not so 'It travelled from A as far as B by some path'. That however entails, not indeed its being at rest at B, but at least its being at B.

Hume wouldn't accept this as a counter-example. But that is because of his—unacceptable—views on space and time. *He* would have divided the journey into two parts: the part up to immediately before the thing was at B and the 'contiguous' part in which it was at B, and he would have said that at most the first part might be cause of the second. But this requires the absurd notion of the contiguity or strict adjacence of bits of space and time with no points in common. Thus what I call Hume's major thesis about causality hangs together with his atomism, with his rejection of the continuum. It depends on that for its universality. I count it as not universally true, and would say that Hume showed us only that causal relations do not as such involve logical connections of cause and effect. In fact the example of travel is the only kind of counter-example that I know.

Hume is making a substantive claim, then, not a stipulation about what we are to call 'causes and effects'. And the claim seems to be almost universally true. I suspect indeed that it can be faulted only where it is tied up with his views on space and time. It is true that causal properties enter into the definition of substances, so that you might think certain effects resulted of

necessity—logical necessity—from the interaction of substances. But you would be wrong in making this inference. A *lusus naturae* is always logically possible. A different melting point may indeed prove this isn't phosphorus; the lump of phosphorus turning into a little bird or a piece of bread would not.

Hume's observation ought to have been a very liberating one. But so far few people have been much liberated, for Hume himself, and almost everybody since, has been anxious to forge some substitute for the chains that he broke—to replace the logical necessity by another one just as universal as it.

I want to discuss a quite distinct doctrine of Hume's, which is often accepted with this one in a single package. I mean his doctrine that his form of a 'law of universal causation', namely 'Every beginning of existence has a cause', has no logical necessity about it.

It is obvious that the doctrines are distinct. Suppose there is a logical necessity about 'Every beginning of existence has a cause'. It would not follow that the connection between any particular cause and its effect involved any logical necessity. For 'Every beginning of existence must have a cause' only says of every beginning of existence that it must have some cause or other, not that there is any given cause that anything must have. Conversely, someone might think that every case of cause and effect, properly stated, involved a logical necessity of that cause's having that effect and/or that effect's having that cause, while not thinking that beginnings of existence had to have causes. (This was McTaggart's view.)

Hume appeared to recognize the distinction of the two questions—but, having once proved to his own satisfaction that 'Every beginning of existence has a cause' is neither intuitively nor demonstratively certain (i.e., as people would say now, is not a bit of logical truth), he 'sinks' the question why we believe it in the question why 'we' believe in the necessary connection of particular causes and effects. Well, I don't believe that quite generally, in *any* sense of 'necessary connection'. We need reason to believe such a thing, and Hume was right in thinking there was none. He was only wrong in thinking that we were under a compulsion to believe it.

Hume's attempted proof that 'Every beginning of existence has a cause' is not a logical certainty is not satisfactory. It goes like this.

As all distinct ideas are separate from each other, and as the ideas of cause and effect are evidently distinct, 'twill be easy for us to conceive

any object to be non-existent this moment, and existent the next, without conjoining to it the distinct idea of a cause . . . The separation, therefore, of the idea of a cause from that of a beginning of existence, is plainly possible for the imagination; and consequently the actual separation of these objects is so far possible, that it implies no contradiction or absurdity.¹

The argument is apparently based on a belief that if we can think of one thing (in this case, a beginning of existence) without thinking of another (in this case, a cause) then the one can occur without the other. In its contrapositive form, 'If there can't *be* one thing without another, you can't *think* of the first without thinking of the second', Hume certainly assented to this general principle, and in this form its absurdity is now generally realized. It is what leads him to say that you cannot think of anything without thinking of it in full particularity. So it may seem odd that the reasoning here, about causes, is so widely believed. The reason is perhaps partly that what Hume is arguing for here is not always sharply distinguished in people's minds from the great major thesis, and partly also that this argument is credited as an argument from imagination to possibility. 'We can imagine a beginning of existence without a cause, therefore there can be a beginning of existence without a cause.' But what interest or value can there be in such imagining? I might as well argue that, because I can imagine circle-squaring, that is possible. It is different when I use the argument from imagination in a particular case of cause and effect. For here it may be clear that I do know what it would be like to establish the occurrence of *this* phenomenon without *this* cause.

Having said this, however, *reculons pour mieux sauter*, so that we may find what is true about the argument. Certainly if we look at a thought as a psychological event, and, by the 'experimental method' as suggested on Hume's title-page, try what we *can* think without what, the argument lacks all force. But suppose we consider a thought, not as a psychological event, but as the content of a proposition, the common possession of many minds. We may then find a way of putting the point. As Aquinas remarks,

Habitudo ad causam non intrat in definitionem entis quod est causatum.²

¹ *A Treatise of Human Nature*, Bk. I, Pt. I, Sect. iii.

² *Summa Theologica*, I, XLIV, art. 1.

The relation to a cause does not enter into the definition of the thing that is caused.

and so someone may argue that:

Nihil prohibet inveniri rem sine eo quod non est de ratione rei: sicut hominem sine albedine. Sed habitudo causati ad causam non videtur esse de ratione entium: quia, sine hac, possunt aliqua entia intelligi. Ergo, sine hac, possunt esse.¹

Nothing prevents a thing's being found without what does not belong to its concept, e.g. a man without whiteness; but the relation of caused to cause does not seem to be part of the concept of existent things: for they can be understood without that. Therefore they can be without that.

This strips the argument (as it occurs in Hume) of the damaging experimental premiss about what we can conceive without also thinking of what. Nor is there here an argument from imaginability to possibility. Rather Aquinas is using the idea of the *ratio* (Greek *logos*), which I have rendered 'concept', of a thing.

Thus the argument published by Aquinas goes:

It is possible to understand existents without the relation of caused to cause

∴ That relation does not belong to the concept of existents

∴ They can lack that relation.

Whereas Hume's version goes:

It is possible to conceive an object coming into existence without conjoining the distinct idea of a cause

∴ It is possible to imagine: an object coming into existence without there being a cause

∴ It is possible for an object to come into existence without a cause.

There is a great similarity; an important difference is the idea of the grasp of a concept which gives what is essential to a matter, which we find in Aquinas's argument. (And something like this we have already looked for in our attempt to introduce 'proper physical statements' of the occurrence of a cause and its effect.) This enables Aquinas to avoid the more obviously false or inconsequent bits of Hume's argument. It thus appears to

¹ Ibid.

convey what is acceptable, what has been found convincing, in the suggestions of the passage from Hume.

However, the thing that in Hume's argument is said—as we may now put it—not to involve a relation to a cause is not the thing that is caused, but its coming into existence. So what we have to consider is whether this premiss:

The relation to a cause is no part of the concept of the thing that is caused

entails

A thing can begin to exist without a cause

or again whether we can quite simply justify the assertion:

The relation to a cause is no part of the concept of a thing's coming into existence.

Hume is so satisfied with his own thinking on this question that he deals cavalierly with the only serious argument that he mentions on the other side. It comes from Hobbes; we should be grateful to Hume for bringing it to our notice. As he renders it:

All the points of space and time in which we can suppose any object to begin to exist are in themselves equal; and unless there be some cause, which is peculiar to one time and to one place, and which by that means determines and fixes the existence, it must remain in eternal suspense; and the object can never begin to be, for want of something to fix its beginning.¹

This account is a moderately good rendering of the argument as I have been able to track it down in Hobbes (for Hume gives no reference). It may be found in a treatise on Liberty and Necessity; the precise passage is to be found on page 276 of volume 4 of the *English Works of Thomas Hobbes*. It runs:

Also the sixth point, that a man cannot imagine something to begin *without a cause*, can no other way be made known, but by trying how he can imagine it: but if he try, he shall find as much reason, if there be no cause of the thing, to conceive it should begin at one time as another, that he hath equal reason to think it should begin at all times, which is impossible, and therefore he must think there is some special cause why it began then, rather than sooner or later; or else that it began never, but was *eternal*.

The respect in which Hume's rendering is a bit unfair is that it suggests the absurd picture of an object's hovering in the wings, as it were, and waiting to get on the stage of existence. But I think we would not want to take any notice of that in any case.

¹ *A Treatise of Human Nature*, Bk. I, Pt. III, Sect. III.

Hobbes's argument is a very interesting one and deserves far more attention than Hume bestows upon it. My interests are not exegetical, so I will not go into the question whether all I see in this argument is really what Hobbes meant. I will only say that consideration of Hobbes's argument led me to the following:

First: in general, the place and time of something's coming into existence are independent of the thing in question. I mean that the place and time in which something comes into existence exist, whether or not that thing, or (in case there is any difference) *such* a thing, does come into existence then and there.

Second: space and time are relative. It is nonsense to think of totally empty space—as Einstein once characterized it, an empty sideless box—consisting perhaps of, or as it were stakeable out as, a set of positions. And it is equal nonsense to think of time as another sort of space (a one-dimensional space) that can be conceived to be empty of existent things and also has its fixed positions for things or events to occupy. Equal nonsense too, to think of the real existence of a space conflated of space and time together, space-time, as an empty space with such a set of positions. It is also nonsense to think of time as a flowing somewhat, as is suggested to the imagination by the phrase 'the passage of time'.

Times are made by changes in things and in their relations, places by the configurations of extended objects and their parts.

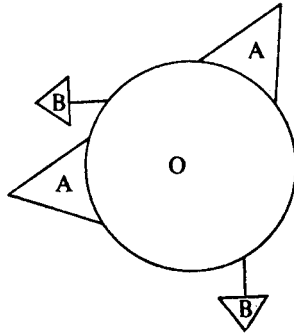
From these considerations it follows that a thing's coming into existence at a time and in a place requires at least the existence of other things. That is to say that it cannot be supposed without supposing the existence of other things as well. This, however, is not yet to give what Hobbes's argument seeks to give; the necessity of a cause. For the demand that whatever has come into existence has come into existence at a time is satisfied if we can say: it came into existence a time ago. And similarly for future coming into existence: that will be a time hence. And if, without thinking of past or future, we think abstractly of a thing's coming into existence, and think 'It has to happen, if it happens, at some time', what we are thinking is that it must be a datable event—'in principle', as they say. And that demands that there be other things, but not yet a cause.

Similarly for place. But there is not the same universal necessity for a place, as for a time, of a thing's coming into existence. There would be a difference between the two for the first thing that came into existence. We can at any rate construct that description and reflect on its implications. Grant a first

beginning, without an eternal container: 'place' would not apply to it. We might think that the thing's place is no different from its time; we have the time at least as 'for some n , n periods ago', even though there could be no prior or contemporary event to give its birth a time. But 'from here', the spatial analogue of 'ago', does not yield much fruit. For how could that—or anything else—be taken as a fixed point of spatial reference by the help of which to assign a meaning to place designations at a time at which nothing fixing that point yet existed? 'Now' of course is not a fixed point of reference either. Nevertheless, in relation to the immense periods of astronomy it is as good as that—one feels no need, for example, to adjust a length of time given as 3×10^{16} secs because the book it was published in appeared some years back! But in any case we would know if we needed to how to add periods to our time of the world as everything gets older. Perhaps, *if* it were on the cards to say how long the universe has existed, the answer would be in some way relativistic (I don't know if this might be so); but there is an *a priori* difficulty of a different order about assigning a place to its beginning, i.e. about the idea of any place at all.

An extended object O of any kind coming into existence and being the first thing to do so would make at least two places: an indeterminate one, only specifiable as 'outside' O , and bounded by the surface or limit of O , and a determinate one inside O , also bounded by its surface or limit. If now our object was a uniform sphere, those would be the only two places it would make. But, in supposing and representing such a thing we can construct various geometrically characterized differentiations both of the space outside and of the space within. These are possible shapes, partially bounded by the surface or a segment of it, or by lines drawn through points specified in terms of O . But no point on the surface of O will be differentiable from any other and so, unless something of such a shape and relation to the sphere actually comes to be, there will be no difference between potential places defined by congruent shapes and similar relations to the sphere. No difference, I mean, between the places A , or again between B and B , which are severally *represented* as different in the drawing on the facing page. These two distinguished places (namely A and B) would be purely imaginary because *outside* O is indeterminate. For places within the sphere like constructions would give similar distinguishable sets of indistinguishable places, members of each of which might be illusorily distinguished in a diagram. But the

places within (whether distinguishable or not) are not imaginary because there is a determinate whole to suppose divided into parts.



All this is merely to illustrate the principle: No object (or happening), no place. So an object, coming into existence and being the first, or an event which was the first, could not be thought of as coming into existence or happening at a place; it would rather itself bring about the existence of a place. It is the same if it is the universe, the whole world, we are talking about, and we suppose it to have come into existence. Supposing it to have had a beginning means supposing it to have come into existence not out of anything. For if out of anything, that would have already existed and so this event would after all not have been the beginning. I take the universe to be the totality of bodies and physical processes, together with whatever is contained in any manner in the compass of that whole. And so if we take any starting-point by referring to specifiable bodies and processes, the universe will include anything that such things have come out of by way of any sort of development. Thus if the universe had a beginning, it must have come to be out of nothing, i.e. not out of anything. And if we ask 'When and where?' we have to make a difference between the two questions. 'Where?', as we have seen, can have no sense given to it. And so, if it is the whole universe we are talking about, we have to depart from the principle that whatever comes into existence must come into existence somewhere. But to 'When?' the answer will be 'For some n , n periods ago of whatever process we may use to measure the times of the world'.¹ Nothing will then have taken place more than n periods ago.

¹ I will continue to use this form for the sake of simplicity. Imagine a prisoner in a dungeon who keeps a tally of certain recurrent events E , but

Thus in this one case we reject the demand that there be a place. There are no places if there aren't any extended things (including processes): their mutual spatial arrangement makes places. There is no such thing as space (the 'empty sideless box' that Einstein spoke of) *in* which they occur; but the supposition of their occurrence makes us represent an imaginary indeterminate place around them, and that imaginary place is what we call 'space'.

However, we still accept the demand that there be a time when, because the form for giving it is 'so and so long ago'. And so we see that Hobbes's argument does at least suggest my present one. A beginning of existence implies the existence of something other than what begins to exist, even if the implication is satisfied merely by processes within that. If, indeed, we are speaking of the beginning of existence of the universe, that is the only way the implication can be satisfied. To repeat, my supposition of the uniform sphere which was the first thing that began to exist was purely for the sake of certain considerations about place and space. I was not suggesting that we could imagine this: a uniform sphere is the first and only thing to come into existence, and it suffers no development. If someone says he can imagine this, I will consent to him and say I can too: but such imaginings signify nothing in the way of possibility: they are rather bits of symbolism. The point of my uniform sphere could indeed be put otherwise. Let us suppose a uniform sphere. What places can be specified in terms of it? The answer is: inside and outside, and by geometrical construction as I described. Like figures with like relations to it will not determine different places except in terms of something else that exists in spatial relation to it.

All this, however, is not yet to reach Hobbes's conclusion. For the 'other things' involved in a beginning's having a time may be subsequent to it and so not causes of it as Hobbes intended the word 'cause'.

Before turning to this, I will dwell for a little on the temporal expressions which may be used here. 'Before the world began' is a temporal expression which we use if we argue, e.g., 'There cannot have been any things or processes before the world began, out of which it developed'. So it might be said 'before the world these cease, and he starts another one, of some other recurrent events E^1 . Then he might say that he last saw someone 260 E^1 's plus 370 E 's ago. I don't know whether anything analogous might occur in the matter of the age of, say, the galaxy.

began' would have to designate a time. Again, if the world had a beginning, let it have been n periods ago, i.e. let there have been n and only n cycles or periods of some periodic process which we are assuming as our clock for the universe. We said 'Nothing will have taken place more than n periods ago'. But will not 'more than n periods ago' also designate a time? And similarly for ' $n+1$ periods ago': for we may say 'Nothing happened $n+1$ periods ago'.

Also someone may have the following difficulty. If there was a beginning of all things then 'First there was nothing, then there was something', as the lady said in Disraeli's novel. But that requires that 'There is not anything' has been true *then*. And how could that be unless there was a 'then', a time? This is not the difficulty sometimes raised, how a proposition (a sentence) could have been true without existing. For there is no difficulty about that: there are many predicates which do not require the existence of their subject at the time when they hold it. But must we not here be referring to *a* time—a supposedly 'void time', as Kant called it?

I think that these difficulties about 'then' are all spurious. 'A time' should mean a unit period or a number of unit periods, a long time or a short time; or else a point of time. But 'before the beginning' or (on the supposition of n periods) 'from $n+1$ to n periods ago' cannot designate any length of time, or ' $n+1$ periods ago' a point. All that is said is, e.g., that before there were processes there were no processes, i.e. that this is not the case: there were processes before there were processes. We might use the contrast between internal and external negation, and say: We are not saying: 'At t (t being a time designated by "before there were processes") there were no processes', but rather 'Not this: at t there were processes'. Given that n periods is the age of the universe, then 'happened $n+1$ periods ago' is not senseless, however, because of the conceptual possibility of the world's having existed for more than n periods.

If there is a real residual difficulty, it will arise only from the idea of a truth which existed then, if we want to speak of this as opposed to only having a past-tense truth which exists now. We must also assume that a mere truth cannot exist alone: for otherwise there would be no difficulty. For the time before the world would be the time of the existence of the truth that there was no world. However the idea of the existence of a truth and nothing else is unacceptable; because truth is because of the way things are. Note that this is not after all a difficulty about

then; if we could understand the existence of that truth, the 'then' would offer no difficulty. The truth that there was no world would not be an object or process out of which the world developed, so if it could be supposed to exist it would have existed in a quite different manner from the objects or processes of the world. There would be no length of its duration, nor any temporal differentiation within it. But we cannot accept the mere existence of a truth: that is the difficulty. It was worth considering what would hold if we could, for we see that we would have introduced something whose temporality was altogether different from that of the objects and processes in the universe.

If, then, this is a real difficulty, it can only be solved by postulating some *other* existence or existences which were there before the objects and processes of the universe began, but were not any sort of objects that turned into the bodies and processes of the universe. Remember that I did not explain the 'universe' as 'the totality of all things', as is often done in spite of the dubiousness of such an explanation. I explained it as 'the totality of bodies and physical processes, together with whatever is contained in any manner within the compass of that whole'. This makes it possible to postulate other existences, if there is reason to do so. To describe them as existing before the beginning of the world would not *eo ipso* be to ascribe any temporality to them. For *that*, a mutability in them would also have to be supposed; for without change, duration can mean nothing besides existence itself. Except that, if there are processes going on, and there is an unchanging object which can somehow be compared with those processes, so as to be found or thought of as simultaneous with them, a fictitious distinct idea of its duration arises, as if one could distinguish temporal parts within the 'invariable' object.¹ Now whether anything can be said about such postulated existences, which would be non-temporal or else whose temporalities would at any rate be different from that of our 'clock of the universe', I do not know. And I am uncertain whether the particular difficulty about the existence of truth before the beginning (if there was a beginning) is a real or a spurious difficulty. I am only sure that *if* it is a real difficulty, it can be solved only by such a postulate.

An expression that is sometimes on some people's lips is 'before time began'. That might seem quite absurd, and in two different ways. First, it sounds as if time were being thought of

¹ Here I am following Hume.

as that 'equably flowing' thing that Newton spoke of: itself a process. Second, as 'before' is a temporal expression, how can we speak of anything as 'before time?' At best it must be a violent and contradictory metaphor, like 'outside space'. But there is another understanding of it which neither involves thinking of time as a process nor invokes a violent metaphor. It may be understood in the sense 'before *times* began'. A time is here to be understood as a period, 'length of time', an age, or again as a point. For there to be *times* there must be processes measurable by some master time-keeping process. A point of time is a derivative notion, for which it is assumed that the specification of a length of time between two events, or back or forward from now, can be precise.

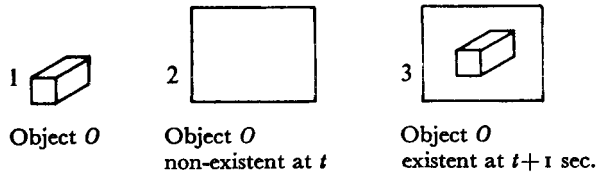
I will now leave these questions, raised by the conception of a beginning of the world, where it is indeed very difficult not to flounder and flail about, gasping for breath and uncertain of talking sense. In all other cases we can accept Hobbes's assumption that when we conceive of something coming into existence we conceive it as coming into existence in some place and at some time. This certainly involves the existence of other things and so falsifies Hume's contention 'That there is nothing in any object consider'd in itself, which can afford us a reason for drawing a conclusion beyond it'.¹ Unless indeed 'something's coming into existence' is not to be reckoned an 'object' as 'object' is meant in that dictum—but we have seen that a coming into existence *is* an 'object' in Hume's usage.

As we have so far understood the existence of other things to be involved in something's coming into existence, it does not yet imply the existence of a cause. To this question, then, we must now address ourselves.

We are to try conceiving the beginning of something without a cause. It is clear that Hobbes meant really supposing this to happen, not just forming a picture of it as happening. In discussing Hobbes's argument Hume rather curiously writes as if what were in question were a proposed existence: 'The first question that occurs on this subject is always, *whether* the object shall exist or not: The next, *when* and *where* it shall begin to exist.'¹ Presumably he meant an existence that one proposes to one's imagination. But what one ought to propose to one's imagination is perhaps not the existence of some object, but oneself seriously judging an object to have come into existence. And here again Hume is over-easy with his argument from imagination. As we

¹ *A Treatise of Human Nature*, Bk. I, Pt. III, Sect. xii.

have seen, he says 'twill be easy for us to conceive an object to be non-existent one moment, and existent the next, without conjoining to it the distinct idea of a cause'.¹ It is very easy to accept this. Till recently I have done so, I have thought nothing easier than to imagine an object non-existent one moment and existent the next. One can make a picture of it:



and of course one can do this without thinking of a cause. I criticized the suggestion that being able to imagine something-coming-into-existence-without-a-cause proved anything, or was proper material for an argument from imagination. I said that 'something coming into existence without a cause' was a mere title one gave to one's mental picture of something—a rabbit, say, or a star—coming into existence. But I did not then notice that just the same is true of the description 'something coming into existence'.

Following Hobbes, I am to try and imagine—really imagine, i.e. imagine the serious supposition, that some object has come into existence without any cause. Now what reason have I, on this supposition, to assign one time and place to this coming into existence rather than another? Can I just suppose some particular time and place without more ado? Not if what I am to propose to my imagination is that I am truly judging that this object came into existence. I need to envisage myself as having reason to say it came into existence at this time and place and not at any other.

Note that we should not raise this question merely about the object's *being* at a certain place at a certain time. *That* I could have observed to be the case; and if I did, I certainly should not need to make reference to any cause of its being at that place then, in justification of my fixing the object as being here now, there then, and so on. But I have got to suppose the object to have been not existent anywhere one moment, existent in this place the next. How can I do that without supposing a cause which justifies me in judging that *that* was the time and place?

¹ *A Treatise of Human Nature*, Bk. I, Pt. III, Sect. iii.

'Well', says the counsel for the prosecution (of Hobbes): 'Can't you *find* that the object was not in that place at one moment and that at the next moment it was there? Might you not learn that this was so from those who observed it? Or, better, may you not suppose yourself to make the judgement because you observed this object coming to be at that place yourself?'

But we must notice that there is a difference between coming to be at a certain place—that is, its coming about that a thing is at a certain place—and a thing's coming into existence at that place. So the question arises: granted that it has come about that this thing is at this place (where it was not before) why is this a beginning of its existence? Might it not have existed previously elsewhere and arrived here now?

'Of course it might', the prosecution agrees with some impatience. 'But it would have to have travelled, i.e. traversed a path and arrived at this place by approaching it. You could have been observant enough to exclude that.'

But might it not have arrived from elsewhere without traversing a path from there to here, simply by being first there, then here?

'No! That doesn't happen. At least, we are told strange things about α -particles—but we aren't dealing with them here, but with familiar macroscopic objects. And such an object could not be identified with such an object—even of just the same kind—that had been in another place, unless there was a spatio-temporal continuity between them.'

But I don't have to make such an identification in order to justify my doubt. Making such an identification would of course prove the doubt true, and I would no longer *doubt*. But I am on the contrary trying to justify myself in saying that this object came into existence here and did not arrive from elsewhere. So in such a case my task, it seems, will always be to make sure that *any* identification of this as this individual with something that was somewhere else before is excluded. I have got to be assured both that such objects never behave as we are told α -particles do and that this one did not travel from anywhere else in some other form—say as a gas—and resume the form it has here on arrival. The task is too much for me; and for all I have a right to judge in the matter, I am forced to conclude that this object may have come into existence in any place and at almost any time you care to mention. It seems that there is no experience which itself *positively* indicates that I have to do with a beginning of existence here, except indeed that the object is here now and

was not here before. But, that being obviously insufficient, I have got to exclude other explanations of its arrival here. That it came into existence here is apparently to be arrived at by elimination. Or is there any more direct method of judging the question?

The counsel for the prosecution may well be excused if he is goaded by this question into a prolonged exposition and expostulation: '*Of course*', he says 'there is over and over again positive knowledge which shows you that this is a first beginning of the existence of an object—it's hardly ever a question of elimination at all. Take a chair, say, of course it doesn't arrive like an α -particle or in any other strange fashion, but you know that because you know how it does come to be; you might have seen the joiner making it out of the wood it was made of, and the wood sawn into planks and the trees cut down, from which it came. Take a baby, it comes from the parents, it grows out of the conjoined sperm and egg. And metals are smelted out of rocks and moulded into pots and rings and other ornaments. Consider the flowers: you yourself took a cutting from a parent plant and planted this one here, and you also started this mustard and cress patch with seeds on a bit of flannel, and you watched it grow. Even without going down a mine we know that the separate lumps of coal were hewed out of the coalface; and we ask a geologist about the process of formation of the coal in the ground. The pudding we are about to eat did not suddenly arrive complete, we know its origin, for it was made in the kitchen out of its ingredients by your sister, you watched her do it. And you know equally well that glass was manufactured out of its ingredients and the clothes you wear were made in a factory out of cloth that was woven out of threads that were spun out of fibres that were, for example, gathered from the cotton plant or teased from the fleeces which had been sheared from sheep. So in a hundred cases we know we can observe beginnings of new items because we know how they were produced and out of what. It is preposterous to claim that no positive actual or possible experience reveals beginnings of existence. We know the times and places of their beginnings without cavil because we understand their origins.'

The defence need make no reply.

The defence rests with the final speech for the prosecution.