

TIME AS SUCCESS*

Gilbert Plumer

How may we explicate the origin of our concept of time—how do we go from simple representation of time, from 'felt time', to the conceptual representation of it? I shall argue, in part following suggestions from Dewey, that our idea of time is rooted squarely in our experience of the success and failure of activity. I will not be concerned with the strictly empirical details of how we as a species or as individuals actually got and get the time-idea; the genetic approach I take is a rational reconstruction of this concept. A key aim here is to 'derive' it from concepts which are not essentially temporal—more precisely, I determine what would be noncircularly sufficient for having certain temporal ideas (criteria (1)-(3), section III).

I. Why This is a Special Problem

A dog's watching a baseball game is different from my watching it. I have the idea of baseball game, I understand what it is for something to be a baseball game—I know the position roles and the chief rules, I can play the game and use baseball jargon correctly—and I apply this idea to what I see and hear, i.e.,

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understand it to have what it takes to be a baseball game. This is to say I represent the game conceptually, as opposed to only representing it simpliciter—that is, being affected by it, and reacting or responding to it in a conscious but entirely unreflective way (as both the dog and I may do, e.g., by spontaneously yawning). Both conceptual and simple representation are to be distinguished from mere reaction, such as the warmth of a rock due to the sun. Now it might be said that an animal can intentionally represent something to another, insofar as, for example, a dog can (try to) tell you he feels like urinating by whining at you and the door. But an animal cannot intentionally represent something to himself. So fully conceptual representation may be described as intentional representation to oneself (i.e., self-consciously), in a conventional medium, very often for the purpose of communication (e.g., my writing this paper). This is surely distinctively human or rational; a dog can't write a paper, but neither can he tell himself he feels like urinating.

I presume that we and other higher-order creatures do simply represent time: If it is habitually fed at a certain time of day, a cat is affected by this conditioning to react by expecting food at that time; upon sensing it enough, a dog/very young child responds by remembering and thereby recognizing her master/mother's face; an animal may learn to wait until the right moment

to pounce (but trees and volcanoes don't wait until the right moment to bud or blow up); etc. We may call simply represented time 'felt time', so long as we mean something like what has just been indicated and not something like tactually or kines-
 thetically felt time—for temporalities cannot be sensed, let alone time.¹ At best, we may say sensation functions as the primary ^{affectation} through (the means of) which time is simply represented in a reaction—but a temporality per se could never be the object of sensation. And strictly speaking, it would be absurd to hold that time (or space) as such, that is, as the unlimited whole which we conceive it to be, could be sensed, because sensation is tied down to the (what's) immediately present, i.e., the (what's) Here and Now. It is even misleading to just say without qualification that time or a temporality, e.g., the passage of time, affects us (we grow older)—for it is not the passage of time itself which ages us ^{in the full sense;} _^ it is certain organic processes, which of course require this temporality (I should not mind aging so much if it was solely a matter of the passage of (my) time). Time and temporalities themselves are not efficacious, though they function as part of what is required for that which does straightforwardly affect (like what is sensed).

The special problem, then, is this: Time presents a particularly difficult case for an account of the origin of its idea because, unlike with personal and material substances and spatialities, sensation and referential pointing out activities

have no direct link with temporalities. I may sense myself (my person—insofar as personal identity is bodily identity), another person, or a concrete thing with any or all of my senses and 'literally', overtly exhibit the item and its place by simply pointing to it (aiming a finger at it, nodding at it, hailing it, saluting it, waving to it, kicking it...). Or, when more specificity is needed, I may point it out by displacing it (budging it, picking it up, shaking it, throwing it...), by circumscribing it (tracing or outlining it 'in the air', drawing boundaries around it, hugging it, circumambulating it, circumnavigating it...), etc.—and sense this individuating demonstrative activity of mine. At the level of such activity, the otherwise metaphorical and abstract reference explicatives like 'picking out' or 'singling out' cease to be metaphorical and abstract. In a fairly clear way we may sense spatialities such as heights, widths, lengths, shapes, areas, surfaces, and I think, depths and distances—and literally point them out (show how high, wide, or long, trace out, pace out...). Philosophical dogma notwithstanding, it seems I directly and at the same time sense the three spatial dimensions of at least one body, namely my body, by kinesthetically sensing it and its (spatial) disposition.²

But we cannot sense temporalities. For if we could, for example, questions about what a temporality tastes, smells, tactually or kinesthetically feels, sounds, or looks like would

have answers—yet they have no answers at all, not even ostensive ones—we cannot literally point out a temporality because we cannot actually point to one, though it is true that on analogy with what we can literally point out we often symbolically point out now (a temporality) by pointing downward. Of course, if the position that the sensory (not 'sensible') present has duration is correct, we do sense movement for instance, which is change of place over time. But to see a tennis ball move Now is not to see either the duration (a temporality) involved or now, as we may see the triangularity (a spatiality) of a blackboard triangle. It might be thought that there is an exception to this, namely, that the simultaneity as such of two events can be sensed. But this seems false. When we, e.g., hear two sounds which occur at the same time, we do not hear their simultaneity (we hear the sounds), though we may hear that (perceive) they are simultaneous, correctly judge them to be simultaneous—which is to say we sense and at the same time conceptually or propositionally apprehend the sounds. (The contrast between sensation and perception should be noted—I operate with it throughout. Perception is sensation 'informed' by conceptual representation.)³

These considerations indicate that our time-idea is distinctively intellectual (as opposed to sensual). We may explicate the origin of the ideas of (e.g.) Me, This, and Here at least in part by appeal to sensation and pointing out activities (viz., that the ability to so-sense and so-act as indicated, and its

exercise, is required for having these ideas, is part of what it is to have them), and in turn, the sophisticated concepts of personal and material substances and space, in a way that cannot be employed for the ideas of Now and time. So how may we explicate the origin of the latter?

II. How We Do It in General

In order to see how we might do it in the case of time (section III), one must at least briefly consider how we in general go from simple to conceptual representation, from mere stimulus-response to perception and thought. Dewey says:

Every need, say hunger for fresh air or food, is a lack that denotes at least a temporary absence of adequate adjustment with surroundings. But it is also a demand, a reaching out into the environment to make good the lack...Life itself consists of phases in which the organism falls out of step with the march of surrounding things and then recovers unison with it...And, in a growing life, the recovery is never mere return to a prior state, for it is enriched by the state of disparity and resistance through which it has successfully passed. If the gap between organism and environment is too wide, the creature dies. If its activity is not enhanced by the temporary alienation, it merely subsists...

[This rhythm] not only persists in man but becomes conscious with him...The discord is the occasion that induces reflection.⁴

There is no thought without the impeding of impulse... Conflict is the gadfly of thought. It stirs us to observation and memory. It instigates to invention. It shocks us out of sheep-like passivity, and sets us at noting and contriving. Not that it always effects this result; but that conflict is a sine qua non of reflection and ingenuity... [We] substitute the arbitration of mind for that of brutal attack and brute collapse.⁵

Dewey points out well that creature-environment discord "induces" thought, that if we experienced little such conflict or if it was only minor, we would not think and talk—we would merely exist in "sheep-like passivity". Yet other animals experience the discord, but they don't think and have language—why? Part of the answer is our greater capacity for being "enriched" or "enhanced" by disequilibria (for, e.g., learning by trial and error in our effort to overcome them); and though other relatively secondary considerations might be adduced, the key to this, I believe, is bluntly implicated in the fact of human manipulative activity, which in both quantity and diversity stands in extreme contrast to what animals muster. Our prodigious capacity to "demand", to feel something should be otherwise than

it is (e.g., that we cannot swim long distances), which engenders our doing something about it (building boats), is the tap-root of what separates us from animals. Human manipulative activity is not only an overcoming reaction to natural creature-environment conflict, it is also an overcoming reaction to lacks and wants, to disequilibria which we ourselves create (which we project Sartre might say, which we will D. H. Lawrence might say), often pertaining to surroundings which we ourselves construct.

As a verbal modal auxiliary, should is a form of thought, i.e., it may function as part of a thought for many diverse thoughts. But it is much more than that. As that which engenders manipulative activity, feeling (i.e., simply representing) something should be otherwise than it is, together with creature-environment conflict, which occasions this feeling (and vice versa), are perhaps the fundamental conditions of the possibility of conceptual representation in general. For other than speech and writing, manipulative activity is the primary behavioral expression of perception and thought, of "noting and contriving", of "reflection and ingenuity"—these are two sides ('outer' and 'inner') of the same coin. Should is the mode of manipulative activity and thought. As Dewey puts it:

Perception of things as they are is but a stage in the process of making them different...Intelligent action is not concerned with the bare consequences of the thing known, but with consequences to be brought into existence by action conditioned on the knowledge.⁶

Yet it is still more than this. As it might most broadly be construed, to feel something should be either as it is or otherwise than it is, is to expect it to be as it is or to be in a way which it in fact is not. And expectation in general is the key simple representation of time because, in addition to being future-oriented, it involves and is involved in simple representation of past and present time: To expect something to be, say, as it is, is to be future-oriented in the past towards something which is present (e.g., a cat's being habituated to expect the food it is now getting—see below). And what is the basic function of memory (which, of course, itself is past-oriented), if not to yield expectations?⁷ (E.g., a dog/very young child's remembering and thereby now recognizing her master/mother's face is a matter of it looking, feeling, tasting as expected.) And waiting is now being, and for awhile having been, oriented towards something in the future which is expected. In such ways as these, feeling something should be is simply represented time, is felt time; hence, insofar as this should is or is related to should as that which engenders manipulative activity, the simple representation of time is a fundamental condition of the possibility of conceptual representation in general.

Perhaps it would be helpful to consider the cat example in more detail. (A) Because of the past conditioning of food regularly being put in his bowl in (say) the early evening, upon being fed now the cat is not at all surprised, indeed he feels

(somewhat) the relief of familiarity—an animal way of feeling something (the meal) should be as it is—and may literally purr with contentment. These feelings are a result of past and present affectation, therefore, in virtue of having them now the cat simply represents past and present time. (B) A little before this evening's feeding he may have literally meowed with anticipation, swishing his tail back and forth across the (catfood) cupboard. He may get hungry and his stomach growl even if he's done nothing but nap all day. His behavior justifies us in saying he feels he will be fed soon, feels there should be food soon. He manifests future-orientation, he simply represents future time, even though (of course) nothing can be presently affected by something in the future in the logically clear ways things are affected by what's present, and past (via traces). (C) But suppose one day the cat is fed in the morning. He then would be surprised, would feel (somewhat) the disorientation of change in routine—an animal way of feeling something (the meal) should be otherwise than it is—the cat didn't expect to (or expected to not) be fed then. Even if he's hungry, he might refuse to eat. (A) is a case of fulfilled expectation, (B) is a case of expectation or expecting, (C) is one of unfulfilled expectation. We may say that all are manifestations of one general expectation the cat has which was produced by the conditioning. It is of the very nature of conditioning or habituation to future-orient creatures by instilling dispositions to have certain feelings.

III. How We Might Do It in Particular

We are now in a position to generate a likely story of the origin of our idea of time. The aim in this section is to lay out much of the big picture by means of a guiding example; in the next section I will defend certain critical points made here. I think the story is a likely one, not in the sense that I think it's probable that it (ever) actually happened in the way I depict, but in the sense that it (logically) might have—what follows is meant to be a rational reconstruction.

Suppose a band of creatures has developed the practice of driving groups of bison which regularly migrate to a certain field at a certain time of year off a nearby cliff. They arrange themselves into a semicircle and stampede the bison over the precipice by marching towards them while making as much noise as possible, perhaps aided by assorted instruments. Those waiting below finish off the injured, taking meat for food and maybe other parts for other purposes back to home base. One year they set out at the usual time, but no bison show at the usual place. After an initial period of aimless consternation, they fan out on a fairly systematic search.

Here we have the basic ingredients for the perception of a lacking (which is in part—but not only—seeing, hearing, smelling no bison in the field): The need for food, excitement, etc., combined with the unprecedented absence of the bison, is a major creature-environment conflict and the occasion of the

consternation of feeling something (the absence) should be otherwise than it is—they expected bison to be in the field. This engenders a subsidiary manipulative activity (the search) within the context of the larger one of the hunting practice. The fairly sophisticated manipulative activity indicates the band of creatures are what would be requisite, i.e., a collection⁸ of at least potential simple language-users and actual very simple language-users having the mastery of, e.g., reactive names for bison and fields. Finally, there is the need to communicate the fact of the lacking—to those in position below the cliff perhaps, and to those at home base.

If, then, they do perceive a lacking, this would in part be a matter of perceiving—and therein conceptually representing—not getting (bison). For us of course, perceiving not-getting clearly involves the idea of Now in that 'getting' is tensed as a present participle and thereby means now getting. But what is needed is to show how, for the creatures, to perceive not-getting is to perceive Now not-getting, how perceiving not-getting inherently contains the contrast with time other than Now necessary for having the concept of Now, and in general, how perceiving the lacking provides them with fundamentals for a rather full idea of time.⁹

Since going for is analytically or conceptually an explicit requirement for not-getting (as well as for getting),¹⁰ by perceiving not-getting bison the creatures ipso facto conceptually represent going-for them, setting out for them. (Again, though

we know this going-for is past when they perceive not-getting, at this stage of my rational reconstruction the creatures do not 'yet' conceive this. But of course we may presume they simply represent qua remember going-for.) The going-for and not-getting, like activity and its failing or succeeding in general, are analytically logically ordered in that the former is a necessary condition for the latter (the latter is a sufficient condition for the former) but not vice versa. And the idea of the logically before and after¹¹ seems to be at root the idea of conditions which cannot be switched around or reversed. Activities and their failures/successes naturally provide such conditions for conceptual representation for this reason, i.e., (a) they are explicitly conditionally (but not biconditionally) related, and because: (b) they are egocentric, (c) they may be primitive—all higher-order creatures engage in activities which sometimes fail, sometimes succeed, sometimes just peter out, (d) hence they are ubiquitous natural states, (e) they involve expectation and its (un)fulfillment (we wouldn't act unless we expected certain outcomes—activity is intentional or purposeful). And in particular, activities and their failures (like our case of going-for and not-getting bison) do so because: (f) they involve creature-environment conflict and (g) feeling something should be otherwise than it is (cf. (e)), (h) they distinctively give rise to the need to communicate.

So far, I have depicted the creatures as being jolted into having the idea of not-getting (in perception), and thereby the

idea of going-for as before and not-getting as after (in the simple logical sense of the one taken as required for the other but not vice versa)—because such is explicitly 'contained' in the concept of not-getting. Yet the going-for and not-getting are necessary and sufficient conditions respectively for there being one another; they are concrete conditions or states of beings (viz., the state of setting out for bison, and of coming off empty-handed), as well as logical conditions—i.e., are conditionally related. (I mean for the notion of a state or concrete condition to be construed broadly enough to include, but to be restricted to, overt activities and their failures/successes, events, and what have been called "standing conditions" or "static events".¹² In short, I mean tangible happenings in general.) Since the context is a relatively primitive one of a lived, ^u sensuously experienced situation, these states, if they are conceptually represented at all, could not be (incorrectly) conceived by the creatures as conditions in the 'simple' logical sense only—for this would be far too sophisticated or abstract(ed) (it is, after all, essentially the sense of 'condition' in theoretical logic and mathematics). And since the states are conceptually represented, it seems therefore that they would have to be conceived as concrete in some way or other. Moreover, the way would have to be primitive and egocentric—'primitive' because we are talking about the origin of ideas, 'egocentric' because the creatures are childlike with respect to conceptualization and language. What fits the bill then, is (concrete)

as sensed. ('Sensed' is to be construed tenselessly at this step of my rational reconstruction and in the criteria below. There will be more on this step in the next section.)

Now since the going-for and not-getting involve expectation and its (un)fulfillment (which are basically what felt time is), or since to be in these states is to be future-oriented in the past towards something which is present (viz., getting bison, though it turns out that they don't), and assuming they are in these respects adequately conceptually represented, it follows that the creatures get a conception of time by perceiving not-getting. We may make this assumption for the latter two respects (past, present), and in a qualified way for the first (future), in virtue of the following: It seems that for any two (distinct) conditions, C1 and C2 (in the present case, going-for and not-getting, respectively), if

- (1) C1 is conceptually represented as before and C2 as after in the simple logical sense of the one (C1) taken as required for the other (C2) but not vice versa,
- (2) they are conceptually represented as sensed, and
- (3) C2 is in fact sensed at the same time as (1) and (2),
and so, is perceived as after and as sensed,

then C1 is thereby conceptually represented as before and C2 as after in what I shall deem 'the basic temporal sense', where

before = earlier than Now or past, and after = Now or present (this will be argued in the next section). Thus, since our case meets these three criteria, by perceiving not-getting, the creatures do not merely ipso facto conceptually represent going-for, but having gone-for and now not-getting, not simply what they had to do (what's logically before not-getting), but what they did do (what's temporally before Now not-getting).

Yet this is not all. To be in these states is to be in the states of having gone-for and then Now not-getting. The creatures conceptually get this 'and then', i.e., the temporal successive-ness and irreversibility (hence the temporal directionality) of these two states taken together, by conceptually representing them as before and after in the simple logical sense of the one taken as required for the other but not vice versa, and as sensed. This is to say that satisfying criteria (1) and (2) is by itself sufficient for it being the case that the states are conceptually related as the one earlier than the other (this will be argued), a relation which is by definition irreflexive and asymmetrical. Furthermore, insofar as b later than a is the same idea as a earlier than b, the creatures have a concept of later than. This means that their perceiving not-getting at least implicitly contains an idea of future (or later than Now) in that it provides them with the essentials of this concept, i.e., an idea of later than, and an idea of Now. The combination of these ideas as an idea of future might be occasioned through a perception we are now (provisionally) in a position to attribute to the creatures, that is, perceiving now going for. (This is the search, a third state, which is subsequent to the other two.

Note that there being the second state, not-getting, is in fact (though not analytically) required for there being this third state but not vice versa. The first going-for will always be indicated by hyphenation to distinguish it from this going for.) If they apply their idea of later than to this going for, i.e., if they conceptually represent the temporal directionality of this state, then to have the perception is to perceive Now going for what's future, since the temporal directionality of this state is its later than Now or future-orientation. Thus finally, their perceiving not-getting at least implicitly contains an idea of bounded time or a (moment of) time, at least insofar as it provides them with the essentials of the idea of earlier and later than Now, or Now as bounded by past and future (and we may presume that the Now of the third state is actually conceptually represented as so-bounded).

But perceiving the lacking is more than perceiving not-getting; it is at the same time a matter of perceiving (and not just merely feeling or simply representing) something as that it should be otherwise than it is, in this case namely, that bison should be in the field but are not. This perception, taken in light of the conceiving just discussed, means that the creatures at least primitively conceptually represent bison as having regularly come to the field (so they should be there Now). This is to generalize indefinitely into (and to found an aspect of the idea of) the past, it is to conceptually represent bison as having come to the field indefinitely many times before (earlier than

Now). In this way should affords generality, provides for conceiving the magnitude of time.¹³ Furthermore, their time-idea, such as it is, is objective at least in that the field, not just the palate, lacks bison—the world fails to live up to expectation. All told then, perceiving the lacking supplies them with fundamentals for a rather full conception of time.¹⁴

IV. Defense

I have indicated that satisfying criteria (1) and (2) is sufficient for conceptually relating two conditions as the one earlier than the other; the satisfaction of (1) and (2) is the root of our idea of earlier than. Actually, the former proposition may be made more general by substituting (2') for (2),

(2') they are conceptually represented as concrete.

There are various ways of conceptually representing something as concrete: one is as sensed (so (2) is a special case of (2')), another is as sensible (which is more sophisticated because it involves possibility), another is as physical (which is still more sophisticated since what's physical need not be sensible). However, for (our) purposes of a genetic account of our time-idea at least one way has to be ruled out, namely, (concrete) as in space and time—utilizing this concept would be grossly circular.

I think that neither the original proposition nor its general-

ized version (just noted) can be proved; nevertheless, they may be argued. In the first place, there is the fact that the same word, 'before', clearly has both a logical and a temporal meaning. There is minimally therefore, a presumption in favor of holding that the two meanings are related. My account offers they are related such that if concreteness is added in the way discussed to this sort of logical meaning, the temporal meaning (earlier than) is generated. So my exploitation of this fact is equally an explanation of it. Furthermore, the relationship bears out (positively) a conclusion negatively arrived at in section I, that our time-idea is distinctively intellectual.

the ETT

It seems true that for any two (distinct) conditions, C1 and C2, if C1 is required for C2 but not vice versa, and both are concrete, then C1 is earlier than C2. I will first try to substantiate this, call it the 'ETT' (for 'earlier than thesis'), and then say how it supports the proposition(s) in question.

Take for example, frigid air and falling snow. The former is a necessary but not a sufficient condition (obviously other things would be required, e.g., the presence of moisture) for the latter, and they are concrete. Since snowflakes take time to form in frigid air, a case of the state of frigid air has to begin earlier than, and in this way be earlier than, one of

falling snow, even though it happens that it also has to be simultaneous with the falling snow, and may extend beyond it as later than (we say the cold wave came before the snow, even given that more of it came during and after than before).

A standard example which is supposed to show that a cause may be simultaneous with its effect is worth discussing at this point. Consider the motion of a locomotive and the motion of its car. Whether or not the former is the cause of the latter (I shall not be concerned with this question), it is clear that of those conditions which we may presume to actually be present, it is only a necessary condition for the latter and not sufficient because, e.g., the coupling would also have to be in adequate working order for the car to move—and not just sit there while the locomotive breaks away. It is said that the two start to move simultaneously. But this is false. Couplings always have some slack in them, thus, the locomotive's motion is earlier than the car's. It might be objected here that if the coupling was "perfectly tight...then the very instant the one moves, the other must move too, without delay".¹⁵ The reply is that perfection guarantees nonexistence—"there is no such thing as an absolutely firm and rigid connection".¹⁶ If such a connection is stipulated, then the case is not the sort of concrete real-life one I am talking about, it is an abstract, idealized case. It seems, like for the perfect circle, that only in thought and not in fact could we 'find' such simultaneity.

Yet what about when the locomotive and the car "both are in

motion"? Surely, here "there is no lapse of time between the motion of one and the motion of the other".¹⁷ But in virtue of what are we now speaking of the motion of either? We most naturally delineate and thereby in part individuate motions and (concrete) states in general by their beginnings and endings; the delineation in this objection is a question-begging abstraction. It asserts nothing more than the tautology that their motions at the very same one time t are simultaneous.¹⁸

Consider the true generalization 'if a match is rubbed against a rough surface, (then) it will burn'. Given a standard interpretation in terms of necessary and sufficient conditions, it means a match's being rubbed against a rough surface is a sufficient condition for its burning (the latter state is a necessary condition for the former). So suppose I light a match in normal circumstances in this ordinary way. Do I thereby contravene (hence refute) the ETT since the match's burning is later than its being rubbed (because friction heat takes time to build up and flames take time to get going—cf. the meaning of temporal successiveness of the word 'then')? To see that it is not refuted we need only examine more concrete detail. First, of those conditions which we may presume to actually be present in such a case, the match's being rubbed is also a necessary condition for its burning (there is, e.g., no one around eager to touch the match with a red-hot poker); this is to say that the two states are related biconditionally, not just conditionally—so-construed therefore, the case does not meet the 'but

not vice versa' stipulation of the ETT. But secondly, this is still not quite right since, of those same normal conditions, the match's being rubbed is really only a necessary condition for its burning and not by itself sufficient because other things would also be required, e.g., that the match is in a dry state. Thus, the particular case falls under and conforms to the ETT.

This does not mean, however, that there is anything wrong with the 'if-then' generalization with which we began. Rather, it suggests that the proper interpretation of this sort of conditional is (schematically) as follows: The set consisting of C1 plus all other conditions normally necessary for C2, is a sufficient condition for C2. (Here, C1 = a match's being rubbed against a rough surface, and C2 = its burning.)

Any case of a common cause, where the concrete effects (C1 and C2) were simultaneous, might be thought to pose a counterexample to the ETT. If indeed they had a common cause, it might be said that C1 was required for C2 in the sense that C2 would not have occurred^r_^ if C1 had not. But if this is so, the same is true vice versa (C1 would not have occurred^r_^ if C2 had not); therefore, such cases do not fall under the ETT.

Let's consider an apparent counterexample where the required for relationship is clearly analytic (the relationship will always be factual where both conditions are concrete, but it may also be analytic—like in our case of going-for and not-getting bison). Suppose there are two trees at place p (= C2). There being (at least) one tree at p (= C1) is required for

C2 but not vice versa. Though both conditions seem concrete, C1 may or may not be earlier than C2. Is the ETT disproven? Hardly, for C1 and C2 actually are not two distinct concrete conditions. The statement of C1 is irreducibly indeterminate in the present context: if the idea of at least is neither explicitly nor implicitly included in it (and so, it is made determinate), it becomes a denial of C2 ('there aren't two trees at the fork in the road, there's one'), that is, the statements of C1 and C2 then become contraries. Reality, however, is not indeterminate; at least is neither sensible nor physical. Therefore, C1 is abstract, not concrete. So what is really going on here (of course) is that out of the C2 situation, C1 is distinguished by a mathematical-logical abstraction. In what other way could there being this or that tree at p possibly be distinguished from there being these trees? Unlike in this example, in all the other cases I have described there are natural ways of distinguishing the two conditions. In that of the locomotive and its car for instance, each motion is a motion of a particular vehicle. With any overt (concrete) activity and its failure/success (such as our hunting case), during activity we bodily do certain things; and the point of failure/success is marked typically by the cessation of those things, and by our having feelings (typically manifested in corresponding behavior) of disappointment or disorientation on the one hand, and satisfaction or relief on the other, i.e., (un)fulfilled expectation. In the present example the only two naturally

distinguishable conditions are the states of there being this tree (here) and that tree (there) at p. One of these states may or may not be factually required for the other; they would be so-related if one of the trees was the parent of the other, or if one needed the shade of the other to take root and grow—and either situation bears out the ETT.

So this example, though not counter, is instructive in that it indicates that two conditions are distinct concrete conditions (are distinct states) only if they are naturally distinguishable, and they are naturally distinguishable if and only if they are distinguishable by means other than conceptual representation—such as sensation (and physical devices which 'extend the senses', e.g., a voltmeter) and simple representation.

The example is similar to a class of cases which we may now rule out as not counter to the ETT, namely, states with parts. Any such part (= C1) is necessary but not sufficient for the whole (= C2), yet C1 is not earlier than C2. We often divide activities and processes into parts. For instance, assume that wood-finishing consists of (i) sanding, (ii) cleaning away wood dust, and (iii) sealing, staining, and/or varnishing. Take sanding as C1, and wood-finishing as C2. Though C1 is naturally distinguishable from C2 insofar as it is so-distinguishable from the rest of C2 (the other parts of C2), C1 is not naturally distinguishable from C2 insofar as it is included in C2—nothing is naturally distinguishable from itself. Another way to put the problem: while sanding is going on we may conceptually

know that wood-finishing is ^{also} going on but then there is no natural way of distinguishing these two conditions (unlike, e.g., the motion of a locomotive and the motion of its car). The problem is a consequence of the fact that for any individual state there may be a number of appropriate descriptions. Of course when they are logically equivalent, the case automatically violates the 'but not vice versa' stipulation of the ETT (e.g., a coin's being tails-down/heads-up).

(In view of this discussion, rigor (and verbiage) would be served by adding as another criterion to (1) and (2) section III: they (C1 and C2) are naturally distinguished. But this may be taken as presupposed, just as the natural distinguishability of C1 and C2 is implied by the statement of the ETT, as we have seen.)

But now look at what we have been doing. We have (of course) been conceptually representing all along. And in each instance where we conceptually represented two conditions as the one required for the other but not vice versa ^{(criterion (1))} and as concrete (2'), we found that it is correct to conceptually represent them as the one earlier than the other—though granted, for reasons specific to each case. The reasons were given here simply because the context was one of argument. But that does not show they need be given in everyday contexts, where it seems a fact that if we say of two states that one is required for the other (where 'but not vice versa' and that they are concrete is understood), and if queried—does that mean the one

comes before (is earlier than) the other?—we would say yes ('a lot of sanding is required for a good finish').¹⁹ This strongly suggests that satisfying criteria (1), and (2) or (2') is sufficient for conceptually relating two conditions as the one earlier than the other, because 'mean' here appears to mean imply (qua is sufficient for). The explanation of why this proposition about conceptualization should be so, is simply that the facts are so; there is a one-to-one correspondence here between conceptualization and reality, with the reality being the fact expressed by the ETT. Why the ETT is so can be indicated in each case by reasons specific to that case. And at the primitive ^{egocentric} level of our creatures we may suppose that a 'reason' for them in each case of earlier than conception is their very feeling or simply representing the one condition earlier than the other.

I have not said that satisfying criteria (1) and (2) is necessary for conceptually relating two conditions as the one earlier than the other. And indeed, neither is necessary.²⁰ I may relate the Chicago Fire as earlier than the eruption of Mt. St. Helens for example, without either conceiving of them as conditionally related (at all), or as sensed (by me). One might complain therefore, that the creatures do not really get an idea of earlier than in virtue of satisfying (1) and (2) since they do not conceptually have what is both necessary and sufficient for relating two conditions as the one earlier than the other.

But I think that what the point that (1) and (2) are sufficient but not necessary actually shows is not that the creatures get no concept of earlier than, but that they do not yet have the full concept²¹ (or, as I have put this, they get an though not the idea); it indicates that the story is really at the primitive level of the generation of the idea of earlier than, which is exactly where we want it to be. It should not be surprising that we, with our sophisticated, generalizing conceptual abilities, can abstract the idea of earlier than from its root, from (1) and (2), i.e., can apply it in instances where (1) and (2) do not obtain, just as (conversely) by abstract idealization of the case we can defeat the implication that C1 is earlier than C2 where C1 is required for C2 but not vice versa, and 'find' that the two are simultaneous, as in the example of the motion of a locomotive and the motion of its car. (Cf. the fact that earlier than is logically prior to simultaneous with in the sense that the latter relation is definable in terms of the former—x is simultaneous with y =df. x is not earlier than y, and y is not earlier than x—but earlier than is not definable in terms of simultaneous with.)

Yet because they are at a primitive level, the creatures could not get an idea of earlier than alone by only satisfying (1) and (2) but not (3) with regard to their states of going-for and not-getting; this would be a too pure, too sophisticated conception since it would have to take place at a time other than when the not-getting occurs. But it could not, insofar as

then they would not have the force of the lacking (bison) present at hand to prompt them, (f)-(h) section III would not obtain and press upon them now. At a time when neither the going-for nor the not-getting occurs, and so, neither is presently sensed, the creatures would have to somehow (and I see no way) conceive each of these states and conceptually relate them wholly from the simple representations of memory or anticipation (expectation), without conceiving which, since they would have no idea of past or future. And from the standpoint of going-for (whether remembered, sensed, or anticipated), simply in virtue of its conception, they would have no analytic means of conceptually representing their later not-getting, because going-for is not analytically a sufficient condition for not-getting (the activity might succeed, or it might neither succeed nor fail—it might just peter out). Thus, the creatures would have to get an idea of earlier than through the perception involved in also satisfying criterion (3), and thereby get it together with an idea of Now. Hence, they conceptually represent the states as before and after (respectively) in the basic temporal sense, i.e., as earlier than Now and as Now:²²

As I said in section III, 'sensed' in (2) and (3), taken as criteria, is to be understood tenselessly. How, then, is (3) the generation of the idea of Now and past, how does not-getting become (conceptually) for the creatures now sensed and going-for become was sensed—a description of what is entailed by the

satisfaction of criterion (3) (which of course includes the satisfaction of (1) and (2))? Sensing not-getting at the same time — it is conceptually represented as sufficient for earlier (in virtue of (1) and (2)) going-for, is to conceptually represent it dynamically in perception as sufficing for (after) what came before. (Because this is the idea the creatures would have, before. ^ 'before' and 'after' in this sentence and in all occurrences to follow are to be taken in both the simple logical and the basic temporal senses. Used with respect to the going-for and not-getting (or any activity and its failing/succeeding) then, they express the idea of what was to be done for what's now going on.) The dynamism is provided by feeling (simply representing) now. This is no problem since we are always feeling Now. Any conscious response to something which is presently affecting is a simple representation not only of what affects, but also of the present; and normally we are always so-responding (to something or other). In virtue of Now feeling one feels Now—indeed, what else could feeling Now be but Now feeling? (Cf. section I.) The real difficulty is answering how we come to perceive (hence conceive) Now. Our creature story tells how this might happen by showing how perceiving not-getting inherently contains the contrast with time other than Now necessary for having (or implicated in) the idea of Now—viz., the idea of earlier going-for, and implicitly thereby an idea of later. It is no objection to point out that when the creatures perceive the not-getting they could not perceive the going-for (since it's past), because I am not saying that

they do. I am saying that they perceive not-getting as sufficing for earlier going-for; when they perceive not-getting as after, they conceptually represent going-for as before—then not-getting is an object of perception (sensation and conceptual representation) and going-for is an object of conceptual representation.

That this is so, that (generalizing) our idea of Now is at root the idea of the world sufficing for what came earlier, is evidenced (but of course not proven) by the fact that the same (French) word, 'maintenant', means both now and maintaining (keeping, supporting, upholding). Now for us is at root the maintaining of the world, the 'aftering' of the world, is its being sufficient, its sufficing for what came earlier.

Thus I think the concept of Now is analyzable in some way, contrary to what fairly often seems suggested.²³ On the other hand, the satisfaction of (3) is not necessary for conceiving Now. We may, e.g., conceive of some far-off state (such as a war in the Middle East) as obtaining Now without it being sensed by us at all; and furthermore, it seems we may conceive Now without relating two states at all,²⁴ let alone one as earlier than the other. But it should not be surprising that we can abstract the idea of Now from its root in the satisfaction of (3), from perception, in particular, from perceiving the world as sufficing for what came earlier—and then 'find' that it is unanalyzable. This indicates, not that (3) has nothing to do with our idea of Now (and past), but that it is the generation of it, which is precisely what it's supposed to be.

One might believe that my analysis is viciously circular in two ways. First, 'sufficing' is tensed as a present participle and hence means now sufficing. But my analysis of our concept of Now (as at root the idea of the world sufficing for what came earlier) is meant to be ^a definition of an idea of Now that is had in virtue of a (basic) perception, and as such, we may construe the sufficing involved, as indicated, as a matter of feeling Now,²⁵ not conceptually representing it—though sufficiency, in the way discussed, is conceived. In other words, a very part of this idea of Now is feeling Now, not (circularly) the idea of Now. (Cf. section V.) Secondly, the expression 'the world' might be thought to pose a problem insofar as it means the actual world, and insofar as that in part means the world which 'contains' Now. But this circularity accrues only from the loose, general way I have stated the analysis. It may be stated more precisely thus: For any two conditions, C1 and C2, if C2 is perceived as sufficing for earlier C1, then C2 is ^{thereby} perceived as Now and C1 is conceptually represented as earlier than Now. What permits the loose formulation is the fact that all perceivable conditions are states of items in the world. Of course it does not follow that they are perceived by the creatures as such. (The re-statement also removes any circularity which might be thought to result from 'came', which is past-tensed.)

I do not mean for the statement of criterion (3), 'C2 is in fact sensed at the same time as (1) and (2)...', to rule out

the possibility of C1 also being sensed then, as it may be for instance, in the case of frigid air and falling snow. If it were, C1 would still be conceptually represented as earlier than Now. This does not rule out the possibility of C1 also being conceptually represented as Now, though my analysis (the satisfaction of (3)) does not provide for (entail) this. Again we see that the analysis is of a primitive understanding, which is what it's supposed to be.²⁶

But, one might wonder, if C1 is not sensed at the same time as it is conceptually represented as sensed (by (2)), as in our case of going-for bison, then how could it possibly be so-represented? Wouldn't it make our time-idea not very interesting or crucial if, indeed, logically prior to having any temporal concepts the creatures could conceive what they are not Now sensing as sensed? After all, isn't our concept of time the very thing by which we break loose from the present?

In the first place, there does not seem to be any obvious reason for thinking that it would be any easier to explain how they could conceptually represent what they are sensing (not-getting) as sensed. When the not-getting occurs, the creatures equally (though differently) simply represent it and the going-for: they sense and respond to the not-getting (respond to it by the consternation of feeling it should be otherwise than it is), and they remember (their just past) going-for. It's not as if the going-for was never sensed, it's just that not-getting is Now sensed and going-for was sensed.

The really difficult problem, and one which is not as relevant to my particular enterprise as certain other questions, is explaining how they could come to conceptually represent their not-getting, and thereby their going-for (since the latter is explicitly analytically required for the former), at all. My attempt at this is (a)-(h) section III, which is partly a summary of discussion thereto. I next indicate in that section why, given that the going-for and not-getting are conceptually represented as the one required for²⁷ the other but not vice versa (1), these states would have to be conceived as concrete in some way or other, they could not possibly be abstractly conceived only as logical conditions. So I say they are conceptually represented as sensed (2), are understood in this way as concrete, because that way is primitive and egocentric.

Secondly, why not? When the not-getting occurs, and logically prior to the satisfaction of (2), both states are simply (as above) and conceptually (1) represented, and so are in this way equally attended to, are equally 'on their minds' so to speak. Therefore, there is no reason to think the creatures would have to 'already' have any temporal concept in order to take the 'next' step of the rational reconstruction, namely (2), and thereby conceive what they are not Now sensing (going-for) as sensed. Solely in virtue of satisfying criterion (2) they do not conceptually represent going-for as was sensed and not-getting as now sensed. As noted, 'sensed' there is to be taken tenselessly—as neither was-sensed, nor is-Now-sensed, nor

will-be-sensed. Nevertheless, in the story (and analysis) their satisfaction of (2) is only logically prior to their conceiving going-for and not-getting temporally; it is certainly not temporally prior—the satisfaction of all the criteria, and what that entails, takes place simultaneously. Still, it is true that my analysis does not strictly exclude the possibility of their having earlier (than their ^cacquiring temporal ideas) conceptually represented what they are not Now sensing as sensed, though it offers no rationale for this. This does not make temporal concepts any less interesting or crucial than they are. All higher-order creatures have practical knowledge of time insofar as they simply represent it. They break loose from the present by the simple representations of memory and anticipation (expectation), though of course they cannot by those means represent what's in the remote past (earlier than their births) or distant future. We should not be bamboozled by the tautology that it takes temporal concepts to conceptually break loose from the present. Merely acquiring the ability to conceptually represent what is not Now sensed as sensed (tenselessly) would not automatically increase one's knowledge of time at all, and so-representing some state does not mean one conceives it as sensible (possible to sense). At a primitive level like that of our creatures, it would mean that one remembers or anticipates the state, and conceives it as sensed—understands it in this egocentric way to be concrete (and not as possible to sense, by just anyone). But one would not know what (and which) one is

doing insofar as one has no temporal concepts. One would not be able to tell himself or anyone else that the state did or will obtain, or for that matter, that it does not now obtain (or that it's earlier than some other state, or etc.). One would not, in any way, be able to generalize indefinitely into the remote past or future. In short, one would still not be self-conscious of time.

V. More Big Picture

The general source of our concept of time identified by this account of its origin is concrete success or failure, as analytically requiring activity. The particular source in our creature story is not-getting bison, an instance of failing at hunting. The overall reasons for this are expressed by (a)-(h) section III, the ETT, and criteria (1)-(3) and what their satisfaction entails. Any instance of an activity with a (un)satisfactory outcome is a case of (failure) success, from grooming to hunting to shoe-tying to boat-building. Even though the particular, immediate origin of our time-idea would have to be a case of failure (because of the need for (f)-(h)), the general source is principally success, because in general our activities succeed much more than they fail.²⁸ Our perception of time is significantly a matter of success perception—
 perceiving the world^{as} sufficing in a distinctively positive way for what came earlier, its maintaining qua making sense ('it

makes sense those rabbits I tracked are dead—I shot 'em'). Hence (again) the particularly intellectual character of our time-concept. Hence the close etymological connection of 'succession' to 'success': we perceive succession by the conceptual representation through perception of a before-after succession, which is very often success perception.²⁹

The point about making sense is more easily seen by recalling (e) the fact that activity, being intentional or purposeful, is significantly the behavioral manifestation of expectation—we wouldn't act unless we expected certain outcomes—thus, (failure) success involves (un)fulfilled expectation. Generally speaking, if something lives up to or fulfills expectation, it makes sense for us; if it does not, then it does not make sense, i.e., it's perplexing (should be otherwise than it is). Therefore, insofar as our perception of time is a matter of success perception, it is also a matter of perceiving the world living up to expectation. As we have seen (section II), one way to explicate expectation is as the key simple representation of time, as felt time. Another way is as belief. To expect the sun to rise in the morning and to shine (though perhaps through clouds) all day, is to believe it will do so. Hume seems to have painted belief as essentially expectation; and surely, expectation is at least a major type of belief, the primary mode of acquisition of which is conditioning (which corresponds to what Hume called "custom"). The reason we are prone to say things like 'time stopped' or 'time stood still' when something

dramatically unexpected takes place (and so, for us the world abruptly ceases to make sense), such as (for the ignorant) a solar eclipse, and to exhibit a consternation similar to brutes, is not that time stopped and stood still. It is because we stop—all activities requiring sunlight are interrupted—and our perception of time is generally much more a matter of success than failure perception, much more a matter of perceiving the world living than not living up to expectation. Each case of a sunrise/sunset 'marks time' or succession for us because each is an instance of expectation fulfillment (belief 'confirmation') within the context of our activities—the world mundanely making sense.

FOOTNOTES

¹William James uses this sort of expression ('felt time'), but for him it seems interchangeable with 'sensed time'. See his Principles of Psychology, Vol. I, Ch. XV.

By 'a temporality' ('a spatiality') I mean an aspect of time (space) or a purely temporal (spatial) aspect of something in time (space). Examples will follow in the main text. This characterization is not as vacuous as it may sound; it rules out, e.g., movement as being either a temporality or a spatiality.

²It is often held that only one- and two-dimensional spatialities can be directly or 'immediately' sensed. Cf. Hume's Treatise, L. A. Selby-Bigge, ed. (Oxford University Press, 1888), pp. 56, 191.

³This (sensation vs. perception) sort of distinction is not uncommon; cf. below and, e.g., Adolf Grünbaum, "The Meaning of Time", in E. Freeman and W. Sellars, ed., Basic Issues in the Philosophy of Time (La Salle: Open Court, 1971), p. 206ff., and Roderick Chisholm, Theory of Knowledge (Englewood Cliffs: Prentice-Hall, 1966), p. 10.

For more argument that temporalities cannot be sensed, see Richard M. Gale, The Language of Time (New York: Humanities, 1968), esp. Ch. V, and Gerald E. Myers, "William James on Time Perception", Philosophy of Science 38 (Sept. 1971), which is

a critical study of James, op. cit. The view that temporalities cannot be sensed may correspond to or explain Kant's point that time is (only) "the mediate condition of outer appearances", Critique of Pure Reason, A34 = B50.

Whether the sensory present has duration or is an instant (durationless), i.e., whether sensation ranges over (encompasses) more than an instant or only an instant, is controversial. A related but different question is whether the perceptual present, i.e., the present or Now of perceptual awareness (Now as perceived), has duration or is an instant. (And if duration is advocated in either case, the problem arises of how long it is.) C. W. K. Mundle suggests that "the specious present doctrine dissolves into a platitude unless" we distinguish these questions, because "no one doubts that we perceive things changing"—the real difficulty is whether or not the sensory present ranges over more than an instant. "Consciousness of Time", in Paul Edwards, ed., The Encyclopedia of Philosophy 8 (New York: Macmillan, 1967), p. 135. Following James, Mundle gives a genetic account of our concept of time, arguing to and from the position that the sensory present does indeed have duration. My account sidesteps this controversy. I show how we may get temporal concepts regardless of the correct answers to these questions; my account is indifferent as between them.

So far as I can tell, only one other substantial account has been published recently. That is D. S. Shwayder, "The Temporal Order", Philosophical Quarterly 10 (January 1960). His model is

how one might teach a child the correct use of terms with temporal meanings, while mine is how a community of burgeoning language-users might acquire temporal concepts on their own. Both models are logical ones determined (we believe) by what is implicated in the concept of time—in constructing them we are "trying to understand what our concept of time is"—he does not write a teaching manual, nor I history (p. 34).

⁴John Dewey, Art as Experience (New York: Capricorn, 1934), pp. 13-15.

⁵John Dewey, Human Nature and Conduct (New York: Modern Library, 1922), pp. 237, 275-76.

⁶Ibid., pp. 274-75.

⁷Cf. Collected Papers of Charles Sanders Peirce, C. Hartshorne and P. Weiss, ed. (Cambridge: Harvard University Press, 1960), e.g., Vol. V, paragraphs 300 and 460.

⁸A plurality of individuals seems required because it seems a private language is impossible, as has been argued by many, e.g., Moreland Perkins, "Two Arguments Against a Private Language", Journal of Philosophy 62 (Sept. 9, 1965).

⁹Therefore, it is no objection to say that such creatures as I

depict must surely 'already' conceptually represent time to some extent, because the very point of my genetic enterprise has been and shall continue to be to spell out (reconstruct) in virtue of what this might be the case.

¹⁰In the active (intentional) sense involved here anyway. Of course in the passive sense, one gets or does not get what one doesn't go for, e.g., a flat tire.

¹¹The idea of the logically before and after (as distinguishable from the spatially or temporally before and after) is involved in (our) saying, e.g., that 7 is before 9 (9 is after 7)—having at least 7 is necessary for having 9, you must have at least 7 before you can have 9 (having 9 is sufficient for having at least 7); and all these are 'but not vice versa'. Another example is our saying that not having all true premises and a false conclusion is a necessary but not a sufficient condition for having a valid argument (before you can have a valid argument you must not have all true premises and a false conclusion). Or again, we appeal to this idea in saying 'clouds before rain', though here the required for relationship may not be analytic. Note that items related as spatially before and after, i.e., as in front of and behind, might be switched around.

¹²J. L. Mackie, The Cement of the Universe (Oxford University Press, 1974), p. 248.

¹³This corresponds to Kant's point that "different times are but parts of one and the same time...every determinate magnitude

of time is possible only through limitations of one single time that underlies it". Critique of Pure Reason, A31-32 = B47-48.

¹⁴Cf. Dewey: "We compare life to a traveler faring forth. We may consider him first at a moment where his activity is confident, straightforward, organized. He marches on giving no direct attention to his path, nor thinking of his destination. Abruptly he is pulled up, arrested. Something is going wrong in his activity...For the moment he doesn't know what hit him, as we say, nor where he is going. But a new impulse is stirred which becomes the starting point of an investigation, a looking into things, a trying to see them, to find out what is going on. Habits which were interfered with begin to get a new direction... [and] give him a sense of where he was going, of what he had set out to do, and of the ground already traversed... In short, he recollects, observes and plans...Thus out of shock and puzzlement there gradually emerges a figured framework of objects, past, present, future." Human Nature and Conduct, op. cit., pp. 171-72.

¹⁵Richard Taylor, Metaphysics, 2nd edition (Englewood Cliffs: Prentice-Hall, 1974), p. 101.

¹⁶M. S. Watanabe, "Causality and Time", in J. Fraser and N. Lawrence, ed., The Study of Time II (New York: Springer-Verlag, 1975), p. 276, emphasis added.

¹⁷Taylor, op. cit., p. 101.

¹⁸Cf. two other "examples that apparently do not require any lapse of time between cause and effect. Take, for example, the case of magnetic field generated by a direct current running along a straight (resistanceless) wire. We know intuitively that the current is the cause and the magnetic field is the effect. But, according to Ampère's law, the magnetic field at a point is $B = 2I/(cr)$ where I is the current and r is the distance of the point from the center of the wire. This equation does not involve ^{the} \wedge time variable, and everything seems to happen simultaneously. But this picture is an oversimplification and the equation is valid only after the system has reached an equilibrium. If we start to let the current flow, the magnetic field starts to build up around the wire and gradually spreads out to farther points...with finite velocity...Another example is the application of the Boyle-Charles law: $pV = RT$. We can take one of the three variables as a function of the two remaining variables, for instance, $V = V(T,p)$. If we increase p keeping temperature T , the volume V will decrease. As far as this equation is concerned, there is no explicit mention of time and the equation seems to be the relationship among simultaneous values of the three variables. But this is because the equation is valid only after an equilibrium has been ^a \wedge redied...But when we first change the weight corresponding to the desired value of p , the pressure, heat and density within

the gas will become nonuniform and the volume will oscillate at the beginning. It will take some time before we can talk about the values of p , V , T that will obey the Boyle-Charles law." Watanabe, op. cit., pp. 275-77.

¹⁹A good finish consists of being smoothly sanded, evenly varnished, etc.

We would say definitely not if the conditions were entirely abstract, e.g., 'not having all true premises and a false conclusion is required for having a valid argument'—because such a case only satisfies (1).

²⁰However, it seems that (2') is necessary since it seems that for anything to be considered to be earlier than something else, they would have to be understood as concrete in some way, because a purely abstract item (such as a proposition, concept, or number) is atemporal.

²¹Cf. Shwayder, op. cit., pp. 34, 40-41.

²²This bears out from a genetic point of view a conclusion of A-theorists such as Gale, "that there cannot be a B-relation of earlier than between two events unless these events have A-determinations". Op. cit., p. 100.

²³E.g., Hector-Neri Castañeda, "Indicators and Quasi-Indicators",

American Philosophical Quarterly 4 (April 1967), p. 87, and Gale, op. cit., p. 99.

²⁴But compare, e.g., the 'token-reflexive' analysis of the idea of Now which holds that the statement made by saying 'x is present (now)' is that x is (tenselessly) simultaneous with this token. Hans Reichenbach was the first to propound this analysis in his Elements of Symbolic Logic (New York: Macmillan, 1947), pp. 284-87. It apparently has refuting difficulties however—see Gale, op. cit., p. 202ff.

²⁵'Now' here is to be taken in the unanalyzable sense, i.e., as standing for the objective or physical present—for argument that there (really) is such a thing see Gale, op. cit., Ch. X and XI.

²⁶It might be explicitly noted that my use of 'analysis' in this discussion of Now somewhat collapses the distinction between, on the one hand, defining a meaning or conceptual elucidation, and on the other, giving an analysis as giving a statement of truth conditions. This is appropriate because (3) both provides a definition of an idea of Now, and its satisfaction is a (sufficient but not necessary) truth condition for conceiving Now.

²⁷For a more specific sketch of how we might acquire the idea

of required for, see Mackie, op. cit., pp. 55-56.

²⁸Cf. D. S. Shwayder, The Stratification of Behaviour (New York: Humanities, 1965), Part Two, Section 13. That we may sometimes think the opposite is due to the fact that failure as a rule announces itself a lot more vividly than success (which is another way to say why it's the particular origin).

²⁹E.g., both words derive from the Latin 'succēdere', which is from 'suc-' & 'cēdere'—to go.

There is another way of perceiving succession if the position that the perceptual present has duration is correct. Cf. footnote #3.