
Chapter

Two

WHY IS THERE
SOMETHING RATHER
THAN NOTHING?

The question appears impossible to answer.* Any factor introduced to explain why there is something will itself be part of the something to be explained, so it (or anything utilizing it) could not explain all of the something—it could not explain why there is *anything* at all. Explanation proceeds by explaining some things in terms of others, but this question seems to preclude introducing anything else, any explanatory factors. Some writers conclude from this that the question is ill-formed and meaningless. But why do they cheerfully reject the question rather than despairingly observe that it demarcates a limit of what we can hope to understand? So daunting is the question that even a recent urger of it, Heidegger, who terms it “the fundamental question of metaphysics”, proposes no answer and does nothing toward showing how it might be answered.¹

* That it is perhaps dangerous as well appears to be indicated in Hagigah 2:1 of the *Mishnah*: “Whosoever reflects on four things, it were better for him if he had not come into the world—what is above; what is beneath; what is before; and what is after.” See also *Midrash Rabbah* (Soncino Press, London, 1939), 1:10, 8:2.

For Leibniz’s discussion, see “On the Radical Origination of Things” in L. Loemaker, ed., *Leibniz Philosophical Papers and Letters* (2nd ed., Reidel, Dordrecht, 1969), pp. 486–491.

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This chapter considers several possible answers to the question. My aim is not to assert one of these answers as correct (if I had great confidence in any one, I wouldn't feel the special need to devise and present several); the aim, rather, is to loosen our feeling of being trapped by a question with no possible answer—one impossible to answer yet inescapable. (So that one feels the only thing to do is gesture at a Mark Rothko painting.) The question cuts so deep, however, that any approach that stands a chance of yielding an answer will look extremely weird. Someone who proposes a non-strange answer shows he didn't understand this question. Since the question is not to be rejected, though, we must be prepared to accept strangeness or apparent craziness in a theory that answers it.

Still, I do not endorse here any one of the discussed possible answers as correct. It is too early for that. Yet it is late enough in the question's history to stop merely asking it insistently, and to begin proposing possible answers. Thereby, we at least show how it is possible to explain why there is something rather than nothing, how it is possible for the question to have an answer.

Explaining Everything

The question "why is there something rather than nothing?" quickly raises issues about the limits of our understanding. Is it possible for everything to be explained? It often is said that at any given time the most general laws and theories we know (or believe) are unexplained, but nothing is unexplainable in principle. At a later time we can formulate a deeper theory to explain the previous deepest one. This previous theory wasn't unexplainable, and though the new deepest theory is unexplained, at least for the time being, it too is not unexplainable.

The question about whether everything is explainable is a different one. Let the relation *E* be the relation *correctly explains*, or *is the (or a) correct explanation of*. One partial analysis of *E* is the Hempelian analysis of deductive nomological and statistical explanation, which we may view as providing necessary but not sufficient conditions for two types of explanation.² The explanatory relation *E* is irreflexive, asymmetrical, and transitive. Nothing explains itself; there is no *X* and *Y* such that *X* explains *Y* and *Y* explains *X*; and for

all X, Y, Z , if X explains Y and Y explains Z then X explains Z .³ Thus, E establishes a strict partial ordering among all truths, or (alternatively) within the set of true sentences of English plus contemporary mathematics whose length is no more than 20,000,000 words. (I assume that anything of scientific interest can be expressed in such sentences, and shall treat their number as *in effect* infinite.) Notice that we are not talking only of what explanations are known to us, but rather of what explanatory relations actually hold within the set of truths.

How is the set of truths structured by the explanatory relation E ? There appear to be only two possibilities. Either (1) there is some truth that no further truth stands in E to, or (2) there are infinite explanatory chains, and each truth has something else that stands in E to it. Either there are no foundations to science, no most fundamental or deep explanatory principles (the second possibility) or there are some truths without any explanation (the first possibility); these actually will be unexplainable in that *no* truths (known or not) explain them. About such truths p lacking further explanation, there also appear to be two possibilities. First, that such truths are necessarily true, and could not have been otherwise. (Aristotle, as standardly interpreted, maintained this.) But it is difficult to see how this would be true. It is not enough merely for it to be of the essence of the things which exist (and so necessarily true of them) that p . There would remain the question of why those and only those sorts of things (subject to p) exist; only if p must be true of everything possible would this question be avoided.

The second possibility is that p is a brute fact. It just happens that things are that way. There is no explanation (or reason) why they are that way rather than another way, no (hint of) necessity to remove this arbitrariness.

One way to remove some arbitrariness from the end of the explanatory chain is illustrated by the program of deriving moral content from the form of morality, a persistent attempt since Kant. Part of the motivation, no doubt, is the goal of convincing others of particular moral content: "If you accept any morality at all (the form), then you must accept this content." Apart from this interpersonal task, there is the desire to understand the structure of the realm of moral truths and, if that realm is autonomous and so underivable from nonmoral truths, to determine whether the fundamental moral truths or princi-

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ples are arbitrary brute facts. If moral content could be gotten from moral form, that content would not be merely a brute fact; it would be the only possible moral content, holding true if any truths at all fit the form of morality. Particular moral content, thus, would be shown to be conditionally necessary: necessary given that there are any moral truths (of that form). To be sure, though that particular content would be rendered less arbitrary, the question would remain of why there were any truths exhibiting that form.

Within the factual realm, the parallel endeavor would derive particular empirical content from the form of facts, or more narrowly from the form of scientific laws or theories. This would show that if there are ultimate scientific laws, so nothing else does or can stand in the explanatory relation *E* to them, then these must have particular content. Such a project might formulate various symmetry and invariance conditions as holding of fundamental scientific laws,⁴ showing that only particular content satisfied all these conditions about form. This would render the particular content less arbitrary, but the question would remain of why there were any ultimate scientific laws, any truths of that specified form. In any case, there will be the question of why there are any laws at all. This question is narrower than our title question but raises similar problems. If all explanation utilizes laws, then in the explanation of why there are any laws, some law will appear. Will not the question of why it holds, and hence of why any law holds, thereby go unanswered?*

Is there any way at all to remove these last unexplained bits? Since a fact that nothing explains is left dangling, while a fact explained by something else leaves the problem of explaining that something else, only one thing could leave nothing at all unexplained: a fact that explains itself. However, if anything has appeared obvious about explanation, it has been that the explanatory relation *E* is irreflexive. Explanations of the form "*p* because *p*" are inadequate and unsatisfactory. We want an explanation of *p* to provide a deeper reason why *p* is true; this is not provided by *p* itself. To answer "why is the sky blue?" by saying "because the sky is blue" would be taken as rejecting the question rather than answering it. A small literature exists that attempts to formulate precise conditions whereby circular expla-

* Could one try to show that if there are any truths at all, there must be ultimate scientific laws (of that form)?

nations are excluded.⁵ Viewing the explanatory relation E as deductive but irreflexive, it must distinguish the legitimate ways a fact to be explained may "be contained in the (explanatory) premisses" from objectionable self-explanation.

The objectionable examples of explanatory self-deduction (total or partial) involve deductions that proceed via the propositional calculus. Would the explanation of a law be illegitimate automatically if instead the law was deduced from itself via quantification theory, as an instance of itself? If explanation is subsumption under a law, why may not a law be subsumed under itself?

Suppose a principle P presented sufficient conditions for a fundamental law's holding true; any lawlike statement that satisfies these conditions, such as invariance and symmetry, will hold true. P says: any lawlike statement having characteristics C is true. Let us imagine this is our deepest law; we explain why other fundamental laws hold true in accordance with the deep principle P, by their having the characteristic C. Those laws are true because they have C.

Next we face the question of why P holds true, and we notice that P itself also has characteristics C. This yields the following deduction.

P: any lawlike statement having characteristic C is true.
 P is a lawlike statement with characteristic C.
 Therefore P is true.

This is not presented to justify P or as a reason for believing P. Rather, granting that P is true, the question is whether what explains its being true, is its having characteristics C (since everything with C is true). A general statement is not proven true simply by being susceptible to an inference of this form. Many false statements also are derivable from themselves in this way, for example

S: Every sentence of exactly eight words is true.
 S has exactly eight words.
 Therefore S is true.

Although derivable as an instance of itself, S is false, nevertheless. Our question is not whether such self-subsumption as an instance of itself can constitute a proof, but whether it can constitute an explanation; if the statement is true, can the reason why be the very content it itself states?

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Is self-subsuming explanation thwarted by the fact that explanations must be deeper than what they (purport to) explain? Within Tarski's framework, P would have to be assigned a fixed metalinguistic level of depth, and so could not be used to deduce itself as above; however, there could be a hierarchy of metalanguages, each one enabling a deduction of the next most superficial law of the family of similar P laws. Another theory recently has been presented by Saul Kripke, in which statements are not assigned fixed levels but each seeks its own appropriate level—the most superficial one wherein the statement applies to its referent(s).⁶ Hence, P when used in a deduction will be one level deeper than what instances it. In this spirit, a theory statement deduced as an instance of itself via quantification theory is deeper as subsuming than as subsumed. In contrast, when p is deduced from itself via the propositional calculus, both premiss and conclusion will have the same depth. A truth can go so deep that it holds in virtue of being subsumed under that very deep truth itself.⁷

Explanatory self-subsumption, I admit, appears quite weird—a feat of legerdemain. When we reach the ultimate and most fundamental explanatory laws, however, there are few possibilities. Either there is an infinite chain of different laws and theories, each explaining the next, or there is a finite chain. If a finite chain, either the endmost laws are unexplainable facts or necessary truths or the only laws there can be if there are laws of a certain sort at all (the fact that there are laws of that sort is classified under one of the other possibilities)—or the endmost laws are self-subsuming.

We face two questions about such self-subsumption: does it reduce the arbitrariness and brute-fact quality of the endpoint at all? If so, does it remove that quality completely? It does reduce that quality, I believe, though I cannot quite say it removes it altogether. If a brute fact is something that cannot be explained by anything, then a self-subsumable principle isn't a brute fact; but if a brute fact is something that cannot be explained by anything *else*, such a principle counts as a brute fact. We normally have no need to distinguish these two senses of 'brute fact', and perhaps usually presume the second. However, we should not be too impressed by the literature's unanimity that explanation is irreflexive. Those writers were not considering explanatory self-subsumption, via quantification theory, of the

most fundamental laws and principles. With these ultimate facts, explanatory self-subsumption seems illuminating and legitimate. What, after all, is the alternative?

Inegalitarian Theories

There is one common form many theories share: they hold that one situation or a small number of states N are natural or privileged and in need of no explanation, while all other states are to be explained as deviations from N , resulting from the action of forces F that cause movement away from the natural state. For Newton, rest or uniform rectilinear motion is the natural state requiring no explanation, while all other motions are to be explained by unbalanced forces acting upon bodies. For Aristotle, rest was the natural state, deviations from which were produced by the continual action of impressed forces. This pattern is not, however, restricted to theories of motion.⁶

Let us call a theory of this sort an inegalitarian theory. An inegalitarian theory partitions states into two classes: those requiring explanation, and those neither needing nor admitting of explanation. Inegalitarian theories are especially well geared to answer questions of the form "why is there X rather than Y ?" There is a non- N state rather than an N state because of the forces F that acted to bring the system away from N . When there is an N state, this is because there were no unbalanced forces acting to bring the system away from N .

Inegalitarian theories unavoidably leave two questions unanswered. First, why is it N that is the natural state which occurs in the absence of unbalanced external forces, rather than some other (type of) state N' ? Second, given that N is a natural or privileged state, why is it forces of type F , not of some other type F' , that produce deviations from N ? If our fundamental theory has an inegalitarian structure, it will leave as brute and unexplained the fact that N rather than something else is a natural state, and that F rather than something else is the deviation force.

However special a state appears, to assume it is a natural state within an inegalitarian theory has significant content. We should be very suspicious of a priori arguments purporting to demonstrate that a state is a natural one, and we should search such arguments care-

fully for the covert assumption that the state is natural or that only certain types of forces can produce deviations from whatever the natural state happens to be.* We cannot assume any particular inegalitarian theory as our fundamental theory.

The question 'why is there something rather than nothing?' is posed against the background of an assumed inegalitarian theory. If there were nothing, then about this situation would there also be the question (though without anyone to ask it) of why there is nothing rather than something? To ask 'why is there something rather than nothing?' assumes that nothing(ness) is the natural state that does not need to be explained, while deviations or divergences from nothingness have to be explained by the introduction of special causal factors. There is, so to speak, a presumption in favor of nothingness. The problem is so intractable because any special causal factor that could explain a deviation from nothingness is itself a divergence from nothingness, and so the question seeks its explanation also.†

Is it possible to imagine nothingness being a natural state which

* See Ernest Nagel, *The Structure of Science* (Harcourt, Brace and World, New York, 1961), pp. 175-178. R. Harré recently has taken just such a suspicious position. He writes: "I come to the most fundamental and the most powerful of methodological principles. It is this. *Enduring is in no need of explanation*. We are not required to explain the fact that something remains the same; only if there is a change is an explanation called for." (*The Principles of Scientific Thinking*, Macmillan, 1970, p. 248.) But don't we need an explanation of why one thing counts as the same, for the purposes of the principle, while another does not? The principle is trivialized if whatever is thought to require no explanation will be said to endure relative to a set of concepts specially designed to fit.

In contrast to Harré's principle, consider the theory of the sixteenth century Kabbalist Meir ben Gabbai, according to whom only God's continuing production of the written and oral Torah maintains things in existence; "were it to be interrupted for even a moment, all creatures would sink back into their non-being." (Quoted in Gershom Scholem, *The Messianic Idea in Judaism*, Schocken Books, New York, 1971, p. 298.)

† If a fundamental inegalitarian theory holds that everything not in N is a deviation from N, also that forces of type F are not in N, then the existence of any F force will be a deviation from N. Since according to the theory, all deviations from N are explainable only by the actions of F's, the fact that there are any F's at all (which fact is a deviation from N) can be explained only by the action of F's. According to the fundamental inegalitarian theory itself, though, there cannot be any explanation of why there are any F's at all that doesn't introduce some F's as explanatory factors. That necessarily leaves us, it seems, without an understanding of why there are any F's at all.

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itself contains the force whereby something is produced? One might hold that nothingness as a natural state is derivative from a very powerful force toward nothingness, one any other forces have to overcome. Imagine this force as a vacuum force, sucking things into non-existence or keeping them there. If this force acts upon itself, it sucks nothingness into nothingness, producing something or, perhaps, everything, every possibility. If we introduced the verb "to nothing" to denote what this nothingness force does to things as it makes or keeps them nonexistent, then (we would say) the nothingness nothings itself. (See how Heideggerian the seas of language run here!) Nothingness, hoisted by its own powerful petard, produces something. In the Beatles' cartoon *The Yellow Submarine*, a being like a vacuum cleaner goes around sucking up first other objects, next the surrounding background; finally, turning upon itself, it sucks itself into nothingness, thereby producing with a pop a brightly colored variegated scene.

On this view, there is something rather than nothing because the nothingness there once was nothinged itself, thereby producing something. Perhaps it nothinged itself just a bit, though, producing something but leaving some remaining force for nothingness. Figure 2.1 graphs the amount of nothingness force it takes to nothing some part of a given nothingness force being exerted. Curve I begins above the 45° line $x = y$, and cuts across it at point e . If this curve holds true, then a certain amount of nothingness force a , to start with,

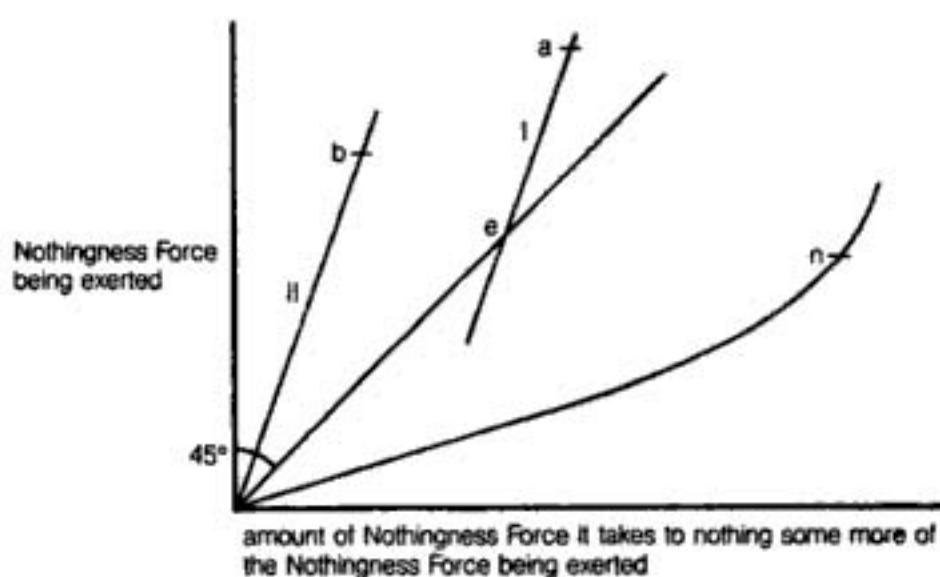


FIGURE 2.1

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will act upon itself and nothing some of itself, thereby reducing the amount remaining and also the amount necessary to nothing some of the remaining nothingness force. The situation moves down the curve I until it crosses the line $x = y$. Past that point e , to nothing some more nothingness force would require more than is being exerted and hence available. If the correct curve were II, however, then a nothingness force of b , to start with, would nothing some of itself and so would move down the curve to the origin, obliterating all of the nothingness force, leaving none remaining. On the other hand, if we start at a point below the 45° line $x = y$, for example point n , there is not being exerted enough nothingness force to nothing any of itself, and so the situation will remain just as is; there will be no movement down the curve from n .

Even if it were true that there was an original nothingness force, the problem would remain of explaining the particular starting point and the shape of the curve that goes through it. Why was that the starting point, and in virtue of what did that curve hold? One possibility appears to leave nothing dangling: the curve is just the 45° line itself, and we start somewhere on it and move down to the origin. There will remain the problem of precisely where we start (is the only unarbitrary point infinitely far out?), but the curve itself may appear unarbitrary. The y axis measures the resistance being offered, so the curve $x = y$ says it takes a force equal to the resistance to overcome some of it. This condition of symmetry, the 45° line, appears less arbitrary than any other. This appearance, however, is somewhat misleading. For why are we using this kind of graph paper? This 45° line would look very unsymmetrical on logarithmic graph paper, while the most symmetrical looking line there would stand for a very different phenomenon.

Thus far I have been considering the inegalitarian theory that assumes nothingness is the natural state. It is time to undermine the picture of nothingness as natural, first by imagining inegalitarian theories where it is not. We might imagine that some fullness of existence is the natural state, and that the actual situation deviates from this fullness because of special forces acting. Whether this theory allows nothingness to result eventually will depend upon whether the force producing deviations from fullness, once it has performed the rest of its task, can act upon itself thereby annihilating itself, the

very last vestige of any fullness. (Or perhaps several forces operate to diverge from fullness that, after the rest of their job is done, can simultaneously annihilate each other.) The western philosophical tradition tends to hold that existence is better or more perfect than nonexistence,* so it tends to view forces that cause divergence from fullness as malignant. But one can imagine another view, wherein the movement from thick and dense matter to more ethereal and spiritual modes of energy and existence is a movement of increasing perfection. The limit of such movement toward more and more insubstantial existence will be the most perfect: nothingness itself. Since reaching such perfection might take hard work and spiritual development, the answer to the question "why is there something rather than nothing?" might be that the universe is not yet spiritually developed enough for there to be nothing. The something is not enlightened yet. Perfection is not the natural state, and there is something rather than nothing because this is not the best of all possible worlds. Against the background of some such theory, the opposite question "why is there nothing rather than something?" (as applied to the appropriate situation) would make sense, and the correct answer would specify the forces that produced the deviation from somethingness, bringing about nothingness.

Apart from any such specific background theory, we should note a general reason or argument for *something's* being the natural state. (This argument was pointed out to me by Emily Nozick, then age twelve.) If something cannot be created out of nothing, then, since there is something, it didn't come from nothing. And there never was a time when there was only nothing. If ever nothing was the natural state, which obtained, then something could never have arisen. But there is something. So nothingness is not the natural state; if there is a natural state, it is somethingness. (If nothingness were the natural state, we never could have gotten to something—we couldn't have gotten here from there.)

It is possible to think that one cannot answer any question if one cannot answer the question of why there is something rather than

* I am told (by Sidney Morgenbesser) that in a novel by Peter DeVries a minister is asked by a troubled parishioner whether God exists, and replies "God is so perfect he doesn't need to exist."

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nothing. How can we know why something is (or should be) a certain way if we don't know why there is anything at all? Surely this is the first philosophical question that has to be answered. It doesn't seem to assume anything (other than that there is something), while the answer to any other philosophical question is liable to be overturned or undermined or transformed by the answer to this one. However, to ask this question is to presume a great deal, namely, that nothingness is a natural state requiring no explanation, while all deviations from nothingness are in need of explanation. This is a very strong assumption, so strong that we cannot merely extrapolate from more limited contexts (such as argument, where the burden of proof is on the person who makes an existence claim*) and build the assumption into our fundamental theory, one not restricted within an understood wider context.

The first thing to admit is that we do not know what the natural state is; the second is that we do not know whether there is any fundamental natural state, whether the correct fundamental theory will have an inegalitarian structure. Any theory with such a structure will leave as unexplained brute facts *N* being the natural state, *F* being the deviation-producing forces, and also the laws of operation of *F*. Perhaps fewer things would be left dangling as brute facts by a fundamental theory that is egalitarian.

But won't the move away from an inegalitarian theory add to our explanatory tasks? If no state is privileged or natural, then for each state we shall have to explain why it rather than some other one exists. At least an inegalitarian theory didn't have to (try to) explain every state—so it faced fewer questions. To be sure, these questions it did not ask correspond to facts it left as brute. Still, to have to explain for each and every existing state why it exists seems to make the explanatory task even more unmanageable. The shift away from an inegalitarian theory seems to add to the explanatory task because now it seems that all existing states, not just some, will be in need of explanation. However, in thinking we have to explain why all existing states exist, we once again have slipped into treating nonexis-

* It is not clear even how to formulate this point about the burden of proof or argument. Why is an existence claim made by someone who says there is a God, whereas one is not made by someone who says there is a God-less cosmos or universe?

tence as the natural state. An egalitarian fundamental theory will not pick out existence as especially in need of explanation.

Questions of the form 'why X rather than Y?' find their home within a presumption or assumption that Y is natural. When this presumption is dropped, there is no fact of X rather than Y. Still, isn't there the fact of X to be explained, the question 'why X?' to be answered? But this is the question 'why does X exist rather than not?', 'why does X obtain rather than not?'. If we drop inegalitarian assumptions completely, we reject the view that when X exists or obtains, it exists or obtains rather than does not or rather than something else—we eliminate the "rather than".

Egalitarianism

One way to dissolve the inegalitarian class distinction between nothing and something, treating them on a par, is to apply a version of the principle of indifference from probability theory. There are many ways w_1, w_2, \dots for there to be something, but there is only one way w_0 for there to be nothing. Assign equal probability to each alternative possibility w_i , assuming it is a completely random matter which one obtains. The chances, then, are very great that there will be something, for "there is something" holds of every possibility except w_0 . On some views of statistical explanation, by (correctly) specifying a random mechanism that yields a very high probability of there being something, we thereby would have explained why there is. ("Why is there something? It is just what you would expect that random mechanism to produce.")

In regard to the use of principles of indifference within probability theory, it often has been pointed out that much rests upon the initial partitioning into (what will be treated as equiprobable) states. A state that is single in one partition can encompass many states in another partition. Even the many ways of there being something might be viewed as just one state in the two-membered partition: there is nothing, there is something. Yet while we can shrink there being something down to only one alternative, we cannot, even artificially, expand there being nothing up to more than one alternative. If there

is nothing(ness), there just are no aspects of it to use to divide it into two alternatives.*

So on the worst assumptions about how the partitioning goes, yielding the two-membered partition, there initially is a one-half chance that something exists. Since all other partitions are at least three-membered, on these other partitionings the initial chance of something's existing is at least two-thirds. Can we go up one level and assign probabilities to the different partitionings themselves? If we go up levels, assigning equal probabilities to the worst case partitioning and to all others (equally), then the probability of something existing increases, and tends toward the probability in the previous equal-chance large partitioning under the principle of indifference.⁹ The larger the number of alternatives partitioned, the closer the probability that something exists approaches to one.

This model of a random process with one alternative being that nothing exists (N), is illuminating. However, it does not sufficiently shake off inegalitarian assumptions. Though the model treats its possibilities on a par, it assumes a possibility will not be realized unless at random. It assumes that the natural state for a possibility is nonrealization, and that a possibility's being realized has to be explained by special factors (including, at the limit, random ones). At this deep level the presented model remains inegalitarian. What would a thoroughgoing egalitarian theory be like?

Fecundity

A thoroughgoing egalitarian theory will not treat nonexisting or non-obtaining as more natural or privileged, even for a possibility—it will treat all possibilities on a par. One way to do this is to say that all possibilities are realized.

For the most fundamental laws and initial conditions C of the universe, the answer to the question “why C rather than D?” is that

* Can we say nothingness includes these two alternatives: nothingness up until and including now, and nothingness after now? First, if we treat everything symmetrically, then something also will get temporally divided similarly, preserving the ratio between the number of somethingness and of nothingness alternatives. More to our point, time also is a “something”, unavailable to partition nothing(ness) if there really be that.

both independently exist. We happen to find ourselves in a C universe rather than a D universe; perhaps this is no accident for a D universe might not produce or support life such as ours. There is no explanation of why C rather than D, for there is no fact of C rather than D. All the possibilities exist in independent noninteracting realms, in "parallel universes". We might call this the fecundity assumption.¹⁰ It appears that only such an egalitarian view does not leave any question "why X rather than Y?" unanswered. No brute fact of X rather than Y is left unexplained for no such fact holds.

Will the fecundity assumption serve to avoid inegalitarianism? Doesn't it, too, specify a natural state, one where all possibilities exist, while perhaps also countenancing deviations from this induced by various forces? Let X be the situation of every possibility obtaining, and Y one of all but two possibilities obtaining. There is no fact of X rather than Y, for both of these situations are realized. Each possibility countenanced by X obtains, as do the two fewer countenanced by Y; all together, these are merely the possibilities countenanced by X.

Y was described as admitting all but two possibilities, and so was compatible with X. Can there not be a Z that admits all but two possibilities and also excludes these remaining two as obtaining? Isn't there then a fact that has to be explained, of X rather than Z? I am tempted to answer that Z is not itself merely a description of possibilities obtaining. In attempting to exclude possibilities it becomes more than a description of possibilities; just as "only world number 3 exists and the fecundity assumption is false" is not merely a description of possibilities. Those to whom this appears lame can imagine the following. X and Z both exist in independent realms R_1 and R_2 . In the realm of R_1 , all possibilities exist, and in the realm of R_2 all possibilities except for two exist, and these two do not. These separate realms do not interact; also within a realm the possibilities realized are independent and noninteracting. Though not all possible worlds are realized in realm R_2 , all of them are in the union of the two realms, written $R_1 \cup R_2$, which contains whatever is in either. Since R_1 already contains all possibilities, $R_1 \cup R_2 = R_1$. The (negative) fact that two possibilities do not obtain holds in the realm R_2 , but not in the realm $R_1 \cup R_2$. (While all the worlds in R_2 also are in $R_1 \cup R_2$, not all the facts true of R_2 also are true of $R_1 \cup R_2$; for exam-

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ple, the predicate " $\neq R_1 \cup R_2$ " holds of R_2 but not if its union with R_1 .)

Consider the question "why isn't there nothing?" There *is* nothing—that is one of the separate possibilities which is realized. If the question means to ask why there isn't *only* nothing, with no other possibility also independently realized, it makes an unwarranted, inegalitarian assumption: that nothingness is the privileged and natural state. Why is there something rather than nothing? There isn't. There's both.

When a hypothesis avoids a fact's being left simply as a brute fact, this usually is taken to provide some reason for believing the hypothesis is true. The hypothesis of multiple independent possible worlds, too, enables us to avoid leaving something as a brute fact, in this case, the fact that there is something.

How does the principle of fecundity arise? Upon what is it based? What explains the fact that all possibilities are independently realized? That only with the principle of fecundity will no fact be left dangling as a brute fact, if true, is an insufficient explanation. It would remain to be explained why the cosmos is so structured that nothing (else) is left unexplained.

The principle of fecundity follows from the thoroughgoing rejection of inegalitarian theories. If no possibility has a privileged status, including nonexistence, then all possibilities independently exist or obtain. If the reason for an egalitarian theory is that only thus is nothing left dangling as a brute fact, we are left with the (metaphysical) question of why the universe is arranged in that epistemologically fortunate way. Why does a thoroughgoing egalitarian theory hold, rather than some inegalitarian one? The answer, of course, is that both hold in their own independent realms, while in the union of the realms all possibilities hold. But if such trickiness robs us of the ability to ask "why egalitarian rather than inegalitarian?", we still want to ask "why egalitarian?". We still want to understand the ground or basis of the realization of all possibilities.

The principle of fecundity is an invariance principle. Within general relativity, scientific laws are invariant with respect to all differentiable coordinate transformations.¹¹ The principle of fecundity's description of the structure of possibilities is invariant across all possible worlds. There is no one specially privileged or preferred possibility, including the one we call actual. As David Lewis puts it, "ac-

tual" is an indexical expression referring to the possible world where the utterance containing it is located (*Counterfactuals*, pp. 85–86). The actual world has no specially privileged status, it merely is the world where we are. Other independently realized possibilities also are correctly referred to by their inhabitants as actual. Invariance principles previously have removed the special status of particular portions of actuality: the (absolute) position and time of an event, the orientation, a particular state of motion (distinguished from its Lorentz transformations). The principle of fecundity extends this, denying special status to actuality itself. Yet, to point out that the principle of fecundity is an invariance principle does not explain why it holds or why a deep invariance of that sort obtains. What then is the basis or ground of the realization of all possibilities?

Fecundity and Self-Subsumption

As an ultimate and very deep principle, the principle of fecundity can subsume itself within a deductive explanation. It states that all possibilities are realized, while it itself is one of those possibilities. We can state the principle of fecundity *F* as

All possible worlds obtain

or as

For any *p*, if *p* states that some realm of possible worlds obtains, then *p* is true.

But *F* itself states that some realm of possible worlds obtains, namely, that of all possible worlds. So the principle *F* is just such a *p* as it describes. From this fact and from *F* it follows, via quantification theory, that *F* is true. The principle of fecundity *F* subsumes itself because it says that all possibilities obtain, and it itself is such a possibility. If it is a very deep fact that all possibilities obtain, then that fact, being a possibility, obtains in virtue of the deep fact that all possibilities do.*

* Do all possibilities exist or obtain, including the one that not all possibilities do? If, to avoid contradiction, we restrict the principle of fecundity so that it speaks of and subsumes only first-level possibilities, those that neither entail nor exclude the existence of other possibilities, then it will not sub-

Similarly we might try to formulate the full invariance condition that the principle of fecundity satisfies as a sufficient condition for something's holding true. Using that invariance property I, we have the invariance principle P: any (general lawlike) statement with invariance feature I holds true. Now if this invariance principle P itself has the invariant property I, then it follows, via quantification theory, that P is true. If F and P are true ultimate explanatory principles, then they are subsumed under themselves. In this case, the principle of fecundity holds in virtue of being a possibility while it is a deep fact that all possibilities obtain, and the principle of invariance holds in virtue of having the property I, while it is a deep fact that every such thing holds true.

Thus, if F and P were true, they would subsume themselves and their arbitrary or brute fact quality would be (we have said) reduced or even removed. But apart from the initial difficulty that F countenances some independently existing parallel possible worlds, it makes a very strong claim, namely that all possible worlds independently exist. According to F there would obtain a world, for example, with 4,234 independent explanatory factors and laws, not to mention even more complicated possibilities. It then would be an accident that we inhabit a world with a high degree of explanatory unity. (True, any universe unified enough to contain knowers will possess a degree of explanatory unity they find striking; but ours exhibits more than the minimal amount needed to sustain knowers.) I view this consequence as highly unwelcome, even though I realize that if the full principle of fecundity were true there would be a world (among others) that realized a high degree of explanatory unity, yet whose inhabitants would find the principle of fecundity very implausible since it made the salient and striking cognitive feature of their world, explanatory unity, merely a happenstance.

This suggests that we limit or restrict the principle of fecundity to hold just that there obtain all possible worlds or realms of a certain sort S. There are two conditions we want satisfied by the sort S in the limited principle of fecundity LF: that our actual world be of sort S, and that the principle LF itself state a possibility of sort S. Moreover,

sume itself. Thus, as before, we interpret it to speak of all possibilities in their own noninteracting realms. This includes, in its own separate realm, the possibility that not all possibilities obtain. However, in (set-theoretical) union there is strength.

if the limitation is to meet our previous objection to the unlimited principle of fecundity then also the sort S will (among other things) specify some high degree of explanatory unity. Such a limited principle of fecundity LF would explain the existence of the actual world, as well as explaining itself via explanatory self-subsumption, all without opening the door to every possibility's obtaining.

The more limited is the sort S, the less powerful is the principle of limited fecundity (as compared to the unlimited principle) and the narrower the range of worlds said to obtain. Which is the most limited sort S that satisfies the three conditions? Perhaps there is a sort S satisfying the three conditions that fits the actual world but no other possible world. The principle LF incorporating that sort would (potentially) explain why the actual world obtains, as well as why LF itself holds (via explanatory self-subsumption), without any reification of other possible worlds.¹² Our claim is not that a (or the most) limited principle of fecundity that satisfied the three conditions must or would be true. The point, rather, is that given a true limited principle of fecundity satisfying the three conditions, there then will be an explanation of the world with nothing left dangling as an arbitrary or brute fact. Our aim is to describe how it could turn out that everything has an explanation.

One suggestion about the restrictive sort S is especially salient. Since the fundamental principle is to be self-subsuming, perhaps "self-subsuming" demarcates the sort itself. This specifies the following principle of limited fecundity:

- All self-subsuming principles hold true,
- All self-subsuming possibilities are realized.

There are two notions of self-subsumption to consider: a direct one wherein something subsumes itself in one step, and an indirect one where something x directly subsumes something else which directly subsumes something which . . . directly subsumes x. (Indirect subsumption is the ancestral of the direct subsumption relation.) The wider variant of this version of limited fecundity says that all indirectly self-subsuming possibilities are realized, the narrower one only that all directly self-subsuming possibilities are realized.

However, neither version limits the full principle of fecundity at all, for that full principle directly subsumes itself. (This also shows the wider version subsumes itself; it yields the full principle in one

step, which yields the wider version in one or two more.) Thus the sort must be further specified: all self-subsuming possibilities of sort S are realized. Note, though, that this will raise the question of whether that principle itself is self-subsuming of sort S. Consider, for example, the narrower of the versions above of the principle of limited fecundity:

All directly self-subsuming possibilities are realized;
 All directly self-subsuming principles hold true.

Is this principle itself directly self-subsuming? That seems undetermined by anything said thus far. If it directly subsumes itself—no contradiction follows from this supposition—then it does; while if it does not directly subsume itself—also a noncontradictory supposition—then it does not. Either supposition leads to a consistent theory.¹³

Would a similar self-subsuming explanation be possible if only nothingness had existed instead? Some principle R would have to specify a property N which only two things satisfied: the possibility of nothing's existing, and R itself.

R: Exactly what has feature N obtains.

R would hold in virtue of having N, while nothingness would obtain in virtue of being the only other N-satisfier, there being none further. Nothingness obtaining would not be an arbitrary and brute fact only if some deep true principle R explained itself via explanatory self-subsumption and yielded nothing (else). That is what would have to be the case if there was nothingness, unarbitrarily. However, since there is something, no such principle R holds true.

Different possible self-subsuming ultimate principles can be formulated, some yielding the actual world (and more), others not. That ultimate principle which is true will, I have suggested, explain itself by subsuming itself. (There need not be only one ultimate principle; the explanatory chains can terminate in several independent ones, each self-subsuming.) Being a deep fact, deep enough to subsume and to yield itself, the principle will not be left dangling without any explanation. A question seems to remain, however: why does that particular self-subsuming principle hold true rather than one of the

other ones? Can we merely answer: it holds in virtue of having the property it ascribes? If one of the others had held instead, it would have held in virtue of having the property it ascribed. So is it not still arbitrary that the particular self-subsuming principle that holds, does hold? Perhaps it is not a brute fact that it holds—for perhaps a brute fact is one without any explanation, while this principle is explained via self-subsumption. Yet though it is not a brute fact that the principle holds, still it seems arbitrary. Why couldn't one of the others have held just as well?

The principle LF that holds true is not a brute fact because it subsumes itself. It will not be arbitrary that this principle holds if it satisfies some deep invariance principle I, specifying an invariance feature that makes its possessors, including the principle LF, nonarbitrary. A principle that varied in the way I excludes would be, to that extent, arbitrary. However, I is not an explanatory factor; it holds because LF does. Self-subsuming, LF holds because LF does, so is no brute fact. It also has the feature I, so it is not arbitrary. What more remains to be explained?

Consider all those different self-subsuming ultimate principles (of which LF is one) that also satisfy some significant invariance feature or other. Why does the one of those that holds, LF say, hold? The holding of LF is not a brute fact (because of self-subsumption), nor is it arbitrary (because of I). However, some other self-subsuming principle LF' satisfies another invariance principle I'; and if LF' held it would not be arbitrary either (because of I'). So isn't it arbitrary that LF (with invariance feature I) holds rather than LF' (with invariance feature I')? Such problems would be avoided if there were a deepest invariance principle I_0 , which, among the ultimate self-subsuming principles, was satisfied uniquely by LF. In that case, LF is not a brute fact (because it subsumes itself), it is not arbitrary (because it satisfies I_0); and it is not arbitrary that LF holds rather than some

* Will there also remain the question of why *this* universe is one with the particular fundamental laws G (for example, general relativity and quantum electrodynamics)? Can we answer that different universes, all falling under LF, will be structured by different fundamental laws, each having those laws as part of its essence so that with different fundamental laws, it would be a different universe? Thus: Why does this universe satisfy G? It is part of its essence. Why does there exist any universe having that essence G? Because some such universe is given rise to under LF.

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other self-subsuming principle LF'' , itself unarbitrary in virtue of satisfying I'' , because I_0 is deeper than I'' . It would be more arbitrary if LF'' held.¹⁴

We moved from the full principle of fecundity F to a more limited one LF in order to avoid the vast array of possible worlds, all obtaining, and the accompanying mere happenstance that our world has a high degree of explanatory unity. However, we seem to forgo the advantages of an egalitarian theory by restricting the possibilities that obtain to the sort S . In effect this makes of S a natural or privileged state in contrast to other possible ones, unless a deepest invariance principle can render this S -limitation unarbitrary.

If there is no such deepest invariance principle, however, merely alternates at the same level, each with its own version of nonarbitrariness, then although the particular self-subsuming principle LF which holds will not be a brute fact or completely arbitrary, still, it will hold merely in virtue of its holding, while other specifications of limited fecundity, satisfying different invariance conditions, also would have held if they had held, merely in virtue of their holding. This parity of status between different principles remains and disturbs.

Self-subsumption is a way a principle turns back on itself, yields itself, applies to itself, refers to itself. If the principle necessarily has the features it speaks of, then it necessarily will apply to itself. This mode of self-reference, whereby something refers to itself in all possible worlds where it refers, is like the Gödelian kind of the previous chapter. There we also discussed an even more restrictive mode of self-referring, reflexive self-referring. Can the fundamental explanatory principle(s) be not merely self-subsuming and necessarily self-applying, but also reflexively self-referring?

The fundamental explanatory principle will not contain an indexical term, it will not say: I am _____.* However, it can fit the general account of reflexive referring: the item refers or applies in virtue of a feature bestowed in that very token act of referring. A reflexive principle, then, will hold or self-apply in virtue of that very fact of holding or self-applying; it will hold in virtue of self-applying.

* Theistic theories sometimes hold that the world or universe refers to God, is a name of God. Might it be a reflexive self-reference so the universe is one of God's tokenings of "I"? (Darker yet, can something be nothing's reflexive tokening?)

This puts the problems we have faced in a new guise. The specific principle of limited fecundity LF will be self-subsuming if it is, and will hold in virtue of being of the limited sort S. It will hold true as a fundamental principle *if* it holds, and in virtue of its holding. Other specifications or versions of limited fecundity also share these features. This presented the problem of explaining why one particular LF holds rather than those others, and it seemed insufficient to answer "it holds in virtue of its holding", since this also would have been true of any one of the others if it had held. Now we can see that this apparent insufficiency marks the fundamental principle as reflexive. A reflexive fundamental principle will hold merely in virtue of holding, it holds true "from the inside".*

To continue to press the question of why one self-subsuming principle LF holds rather than another assumes the ultimate self-subsuming explanatory principle will not be reflexive. But what else could it be?

Ultimacy

Philosophers push or iterate a question, usually about justification, so far that they cannot find any acceptable deeper answer. Attempting to deduce, explain, or justify the principle or position already reached, they fail, or covertly reintroduce the very result to be gotten. Whereupon a crisis for philosophy or for reason is proclaimed: a surd has been reached which cannot be justified (or explained) further. Reason has been forced to halt.

What did they expect? Either the chain (of explanation or justification) goes on infinitely, or it goes in a circle, or it reaches an endpoint, either a simple point or a self-subsuming loop. What result would *not* constitute a crisis? It seems plausible that philosophy should seek to uncover the deepest truths, to find explanatory or (if that is its aim) justificatory principles so deep that nothing else yields them, yet deep enough to subsume themselves. Reaching these

* Is it a relevant disanalogy that in reflexive self-reference there is an act, independent of successful reference, that bestows the feature? The feature is not bestowed by successfully referring, is it? Is there a similar independent entity that bestows a feature in virtue of which a fundamental self-subsuming law holds?

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should be a goal of philosophy, so when that situation occurs with some topic or area, instead of a crisis we should announce a triumph.* One of philosophy's tasks is to probe so deeply as to uncover the fundamental truths, to list and identify these, and to trace out what they yield, including themselves. To succeed in this should occasion pride, not shame.

Striving to delineate deep principles that yield others while subsuming themselves leads to change of gestalt. The goal is to get (what previously would have been called) stumped, unable to proceed further, though we do not want to reach this goal too soon. This shift in gestalt results from taking an overall view of the whole tree-like structure of explanation (or justification) so that we ask how it should eventuate, and do not merely look at the local connecting links. It is not surprising that some things that would be objectionable in the middle of the tree, such as having the same statement or principle recur, are desirable at the end.

How will we know whether we are in the middle of the explanatory (or justificatory) tree or at its end? One sign of being at the end is finding a self-subsuming principle—that is what we expect to find there. But this sign is not infallible. It is not impossible for there to be a self-subsuming principle somewhere in the middle, one which also has a further explanation (or justification). A self-subsuming statement written on a blackboard also can be subsumed by another statement, not written there, holding that all the statements on the board are true. Recall our earlier example: all sentences of exactly eight words are true. This is self-subsuming, but actually false. However, we can imagine a world where it holds true, there being some further explanation of why it holds. Not everything self-subsuming is explanatorily ultimate, without deeper explanation, even if everything ultimate turns out to be self-subsuming.

I do not know of a detectable sufficient condition for ultimacy, an infallible way to tell we have reached an ultimate explanatory (or justificatory) truth.† However, if we find a self-subsuming statement

* Some may see this suggestion, as I myself sometimes do, as like that of the senator who during the war in Vietnam proposed that the United States should announce that it had *won*, and then leave.

† One writer has claimed that the very nature of the nondual Vedantist Brahman, without distinctions, precludes further explanation. (Eliot Deutsch, *Advaita Vedanta*, East-West Center Press, Honolulu, 1969, ch. 2.) But how can one tell that it is featurelessly homogeneous throughout, including at all

that is deep enough to yield everything else in an area or realm, while repeated efforts fail to find a further truth that yields it, then it will be a reasonable conjecture, tentatively held and overturnable, that an ultimate truth has been reached. One reasonable explanation of why no deeper truth has been found is that there is not one. (Another, of course, is that we haven't been profound enough to discover it.)

If it is a fact that a principle, say LF, is ultimate, then if it is to explain and yield all truths, it also will have to yield that truth stating its own ultimacy: that there is no deeper explanatory truth that subsumes or yields LF. Otherwise, this one fact, at least, will be left dangling and unexplained. To be sure, if a principle says it is ultimate, that does not prove it is; and if a principle is otherwise true, adding the conjunct that it is ultimate might transform it into something false. But if the fundamental explanatory principle is ultimate, shouldn't it yield that fact too?

We might think that the fact of ultimacy is a negative fact ("there is no deeper . . ."), holding it unreasonable to think the explanatory principle will yield all the negative facts also. Apart from the difficulty of drawing a distinction between positive and negative facts, what then do we think does fix the negative facts? Presumably, the addition to the fundamental principle of the statement: and there are no further positive facts except those that follow from LF, all of which do. But this cannot be a positive fact, for (by hypothesis) it does not follow from LF; yet if it is a negative fact, what makes it true? Compare the issue of whether in giving the meaning of the universal quantifier by a conjunction, one must introduce or assume the additional statement that all the objects have been listed, that there are no other objects.

It is worth investigating various ways the feature of ultimacy can enter integrally into a principle, rather than merely be added as a conjunct. (Note that even the conjunction could not be $LF' : LF$, and LF is ultimate. Rather, it would have to be $LF' : LF$ and LF' is ultimate.) Might one make the explanatory relation precise so that a statement can be constructed that yields other truths and, on the in-

(possible) levels beneath the one where it is experienced as such? A painted surface can look perfectly undifferentiated, until we look closer or theorize about its microstructure. Moreover, could not homogeneity be explained as resulting from a process of erosion of distinctive features?

terpretation, say of itself that it is not explainable by anything else, that is, is ultimate?

Suppose this fact of the ultimacy of LF obdurately remains unexplained, or that the reflexivity analysis of a principle's holding in virtue of a feature bestowed by its holding seems to leave unexplained why the fundamental principle is reflexive. How disturbed should we be that something is left dangling? Let us imagine a system where nothing is arbitrary, there are no brute facts, everything has an explanation. Will these features themselves be arbitrary or brute facts without explanation? Will it be a brute fact that there are no brute facts? If nothing is arbitrary will that be arbitrary? Will there be an explanation for why everything has an explanation? How complete will the rational structure be? One piece of the philosophical tradition is especially relevant to these issues: the principle of sufficient reason.¹⁵

The Principle of Sufficient Reason

Let us state the principle of sufficient reason as: every truth has an explanation. For every truth p there is some truth q which stands in the explanatory relation E to p .

Is this principle true, does it apply to itself, and if so what is its sufficient reason? Is the principle of sufficient reason, call it SR, a brute fact or does it have a sufficient reason? If we assume SR is true and apply it to itself, we can conclude that there is some truth q which explains SR. Self-applied, SR says there is something true which explains it, but does not say what that something is. In particular, SR does not provide the explanation of itself via self-subsumption.¹⁶

The principle SR would be explained if there was an intervening factor, an X factor, between truth and there being a sufficient reason. In that case, SR could be deduced from the premisses: all truths satisfy condition X, and anything satisfying condition X is explained by some truth or other. However, I do not see any intervening factor that can do this job nontrivially. (It would be trivial to let X be the condition satisfied by p precisely when both p is true and if p is true then there is some true q which stands in the explanatory relation E to p .)

Alternatively, SR, though otherwise true, might fall outside its own scope and so be without a sufficient reason of its own.¹⁷ In that case, would it be arbitrary that SR holds? When any other truth holds without an explanation it is an arbitrary brute fact, but when SR holds without explanation, is it an arbitrary fact? If there is no sufficient reason why everything else has a sufficient reason, is it arbitrary that everything else does? Would it not be even more arbitrary if something else *didn't* have a sufficient reason? In this manner, we might try to convince ourselves that SR can stand unarbitrarily, even without a sufficient reason of its own.

Should we expect that the principle of sufficient reason is true? It will not hold true if we can construct a statement S that says of itself that there is no explanation, and so no sufficient reason, for it. If S is true, there is no sufficient reason for it, and SR is false. On the other hand, if S is false, then there is a sufficient reason for S, but then there is a sufficient reason for a false statement. If sufficient reasons establish truth (as the tradition assumes), this is impossible. Therefore, the first possibility holds: S is true, and so SR is false.

There is, however, a problem with this line of reasoning. Would it not show that S is true and (by showing that S's falsity is impossible) also show why S is true? So doesn't it provide a sufficient reason for the truth of S? Yet S states that there is no sufficient reason for its own truth, so the line of reasoning showing that it is true had better not also provide a sufficient reason why it is. (It is this, seemingly, that is done when it shows that S's being false is impossible. Might this fail to show why S is true because it doesn't show why a sufficient reason establishes truth?)

The above line of reasoning may or may not succeed in making S a fixed point of the predicate 'is without a sufficient reason', and so make SR false. In any event it would be foolhardy indeed to place any significant weight upon the necessity or even truth of SR. This century has presented us with a well-developed physical theory, quantum mechanics, that does not satisfy SR. Moreover, theorems show that any theory that retains certain features of quantum mechanics also will not satisfy SR.¹⁸

There is, however, a weaker form of the principle of sufficient reason which is worth considering. It does not say that every truth has a sufficient reason or explanation. Rather, it views a truth's having a sufficient reason as a natural state, deviations from which can occur

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for reasons. The first weakening of the principle would say that if p is true then there is a sufficient reason for p or there is a sufficient reason for there not being a sufficient reason for p .*

Clearly, this process of weakening can continue further. There may be a truth with no sufficient reason for it, and no sufficient reason for there being no sufficient reason, while there is a sufficient reason for that. And so forth. While the strong principle of sufficient reason SR may not hold universally, still, some weakening of it, somewhere up the multi-leveled structure, may yet hold true. I relegate the detailed delineation of this structure and its various forms and technicalities to an extensive footnote.¹⁹

* Almost all Jewish philosophers who discussed whether there were reasons for the commandments, the mitzvot, held that there were, though the reasons for some of them, the statutes or hukkim, might be obscure. (See the article "Commandments, Reasons for," *Encyclopedia Judaica*, Vol. 5, pp. 783-792; an introductory survey of the reasons discussed by the commentators is presented in Abraham Chill, *The Mitzvot: The Commandments and Their Rationale*, Bloch Publishing, New York, 1974.)

In the course of presenting his own views, Maimonides (*Guide of the Perplexed*, part III, ch. 26, p. 508) mentions another view (apparently put forth in *Genesis Rabbah*, XLIV) that some commandments have as their only reason that a law be prescribed. If there is a point to a law without any further specific reason, for example, to evoke obedience to God for its own sake, then on this view, there is a reason why a law is prescribed with no specific reason for it. There is a statute without sufficient reason, but there is a sufficient reason for that.

Hegel provides another instance of a view wherein there is a sufficient reason why there is no sufficient reason for something, in his treatment of why there must be contingency.

Is not a structure inegalitarian that treats "having an explanation" as a natural state, deviations from which have explanatory reasons? Previously an egalitarian structure was motivated by the fact that an inegalitarian one leaves unexplained why the natural state is the one it is, and so on. But this cannot move us off even a weakened principle of sufficient reason to an egalitarian structure where nothing is in need of explanation. For if nothing is, then neither are the things left unexplained by the inegalitarian weak principle of sufficient reason.

Does symmetry provide a natural state in explanation, so that symmetries need not be explained whereas asymmetries must be explained as arising out of an underlying symmetrical state from the operation of an asymmetrical factor? (But unless no suitable opposing factor could exist, there will be the question of why there is this asymmetry in factors.) Given the diverse ways of categorizing the world, I believe that symmetry is a mark not of the truth of an explanation, but of our understanding a phenomenon. This requires further investigation.

How Are Laws Possible?

We have considered how the most fundamental and ultimate truths might be explained as subsuming themselves, perhaps reflexively. A puzzle was mentioned briefly about explaining the existence of any laws at all; any such explanation itself will involve a law. (Perhaps this, too, can be handled by self-subsumption.) There is one further question to mention here: how is it possible for a (fundamental) law to hold? What possible relationship could there be between a law and what conforms to it, in virtue of which such conformity occurs? This has the air of a question from F. H. Bradley—one not to be taken too seriously. Yet that would be a mistake.

Events, Hume taught us, do not stand in any logical connections. However, they can be connected, we think, by laws in accordance with which one event leads to (and produces) another. What is the relation of the events to the law, what is the ontological status of the law itself? The events instantiate the law; we might think it is the law that makes the events happen that way, or that (with a causal law) makes the second event occur given the first. The law's holding makes the second event happen. If the law's holding is another event, how does this event plus the first one reach out to make the second happen? While if the law's holding is merely a summary of all the actual pairs of events in accordance with it, then it does not make these events happen, but rather is (partly) composed of their happening. Why then do they happen that way? Moreover, lawlike statements entail subjunctives, and so do not have their content exhausted by the actual events in accordance with them. Something more than the events that actually happen must make the subjunctive hold. What and how? Again we are led to ask: what is a (fundamental) law's ontological status?

Imagine that the law is written down somewhere in or outside the universe. Even then, there would remain the question of what the connection is between the law and the events that instantiate it, that are in accordance with it. For any sentence can be interpreted differently, a lesson Wittgenstein has driven home to us. What then is it that fixes the law's being realized in precisely this way, rather than being projected differently?

In his *Philosophical Investigations*, Wittgenstein asks how lan-

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guage is possible, and more particularly, how correctness in the application of a term is possible.²⁰ A mental item (word, sentence, image) does not wear its meaning on its face. Each such item, considered as a real thing, can be applied or projected, or understood in different ways; just as any three-dimensional object can be projected onto different planes or nonplanar surfaces, pictures can be viewed as representing different situations, signpost arrows can be interpreted as directing one to go the other way, and so on. Each item, then, seems to require instructions about how it is to be applied or understood, a rule for its use, yet every such stated instruction or rule is itself merely another item which can be understood or projected in various different ways. No item applies itself or by its own very nature picks out its uniquely correct application, so no image or idea considered as a real existing thing in the world, even when occurring in the mind, can fix a word's correct application.

We do have a record of (some) past applications of the word, correct applications and incorrect ones. Does that fix how the word is to be applied in the future? Just as through any finite set of points an infinite number of curves can be drawn, so different hypotheses or rules about applying the term are compatible with all the past data-points of application. Any batch of particular items is a subset of an infinite number of different sets, where it is joined along with different things. So how can pointing to the batch of past (correct) applications fix which is the set of all correct applications? Adding verbal instructions to the past applications does not eliminate all but one way to apply the term, for these instructions themselves need to be applied in one of the many different possible ways. Wittgenstein presses these points home with his example of continuing a mathematical series: being given the first few members of the sequence and also the formula does not by itself fix how one is to go on. These items, past applications plus written formula plus past applications in learning other formulas, are all actual past events—how then can they reach into the future to fix the character of a new application as correct or incorrect? Set this alongside Hume's lesson that there are no logical connections between events; all the past events in learning language do not logically imply any future event or its being correct. It will not help to introduce a proposition to mediate the logical implication, for the earlier events will not logically imply the proposition (if it implies the later events). We may come to wonder

how logical connections, not only causal ones, are possible at all, for what is the character of existing things between which there can be logical connections?

In Wittgenstein's view, correctness in the application of a term is constituted by the way we actually go on to apply it. Nothing past fixes, logically determines, an application as correct, but it is just a fact about us that confronted with past teachings and applications we will go on a certain way, and we all will go on the same way. However, Wittgenstein's view cannot provide an answer to our question about how a law is connected to its conforming events (nor was it intended to), whatever be its adequacy in answering his questions about correctness in the application of a term.²¹ For Wittgenstein needed to introduce the mediation of people, how they actually apply a general formula or term, to connect the terms to their instances. It cannot be people, however, that mediate the connection between a general causal law and its instances; such laws apply to people and applied before any people ever existed. Moreover, people's agreeing may well depend upon causality, and so could not underpin it.²²

It seems that a law cannot have a separate ontological status, for then it could not reach out to events, by itself. Yet if a law simply states a pattern showing in the events, if it is merely descriptive, if the law has no bit of ontological status of its own (and how can it not if it goes beyond actual events to subjunctive facts?), then how can laws (be used to) explain? How does a higher level summary pattern's holding explain a lower one? Is every explanation merely implicit repetition? Explanatory laws need not be necessary truths, contra Aristotle, but mustn't they be *something*?

When the events that occur are lawful, what is the connection between these events and the law? Here we are asking for a real connection which makes the events conform to the law (otherwise, why do they?), for a real relationship which corresponds to and underlies "being in accord with". Yet how can any connection reach out from the law to the events? Clearly, no causal processes can fill in the gap while any logical connection, or the law it connects, itself has to be interpreted. Can some lawlike statement interpret itself, might a law give instructions for its own interpretation? But these instructions also would have to be interpreted and so, as in the earlier case of different self-subsuming laws, there would be various laws that on an interpretation also give directions or specify that they are to be inter-

preted that way. So the fundamental self-subsuming laws would have (on an interpretation) to fix their own interpretation through self-sustaining directions for interpretation which, on an interpretation, specify that very interpretation. Interpreted differently, the laws and directions might fix another interpretation. So a statement that fixed its own interpretation would have to embody some analogue of reflexive self-reference, applying as it does in virtue of the act of applying and being so interpreted. The means by which such a reflexively self-subsuming interpretation could occur are mysterious, another unhelpful mystery.

Treating laws as akin to statements leads to the morass of difficulties about what interprets these quasi-statements. Furthermore, Gödel's proof that there is no formal system in which all truths of number theory can be proven as theorems makes prospects dim for a picture of all facts (including necessary truths) as in accordance with statement-entities from which they can be derived. The determinist therefore is ill advised to state his thesis in terms of derivability in principle from causal laws.²³ However, there also are difficulties in the other standard way of stating the content of determinism: that if the initial state were repeated and things ran on, there would occur the same later state as happened the first time through. For it might be that if the same initial state were repeated, that could only be after the universe's gravitational collapse into a new initial stage beginning a new expansion, and in that new expansion new laws would hold, so the later state would not then follow again. Thus, the subjunctive purporting to state determinism would be false, even though the events are determined during this (expansion and contraction) cycle of the universe. Clearly, to state determinism as "if the initial state were repeated and the same laws held then . . ." leads to the same difficulties as earlier about the laws.

If a law is considered not as a quasi-statement but as a general fact (which a true lawlike statement states) then how can this general fact make true the particular ones in accord with it? It is difficult to see what this "making true" relationship would be as a real connection among facts. For it to do its job, it must be akin to causality, but then the same problems seem to arise once again. Perhaps some who spoke of laws being (in some senses) necessary meant to ascribe to laws a property whereby they constrain the facts—but this only

names the problem. Yet those who saw as equally necessary the singular conditional between the facts that instantiated the law did not have in mind this constraining function for necessity. The nature of that necessity (or necessity operator) was left obscure not simply because it was undefined—it could, after all, have been a theoretical term—but because both its ontological nature and its mode of connection with other facts were unspecified. However, if the general lawlike regularity does not constrain the more specific facts, being merely a descriptive summary but ontologically unable to give rise to them, then it is unclear in what way the more specific facts are explained by the general, in what sense we come to know why the more particular holds true.

This picture of the general merely as summarizing narrower particularities, no deeper than a conjunction of them, radically undercuts the notion of a hierarchy in terms of fundamentalness. If the general facts do not actually constrain the particular ones, all facts are on a par. If anything, the ontological priority would lie with the particular facts, which mold their accurate general summary.

One might be suspicious of fundamentalness for other reasons as well: formal systems can be axiomatized in different ways, the axioms of one system being theorems in another; scientific laws can be given different but equivalent formulations and representations;²⁴ since not all truths can be derived within an axiomatic system, we cannot say all other truths hold because some few fundamental ones do. Philosophers have always tried to uncover more fundamental truths, to make them explicit, to justify in terms of them, sometimes to explain them or via them. Does this very notion of fundamentality, with its associated ordered structuring, need to be questioned and undercut? Has philosophy's unquestioned and unexamined presupposition been that something or other is (more) fundamental? Should we question the very notions of underlying truth, of deep truth, of explanatory ordering? This feels like a deep question, but if the presupposition is rejected, will it come to seem superficial—as superficial as everything else? And if a view uncovers and rejects this presupposition, as a presupposition, isn't the view recognizing depth even as it rejects the very idea?

Let us examine what a theory would look like that did not make any fact more fundamental than any other one. We already have con-

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sidered egalitarian theories, in which no state is picked out as natural and so requiring no explanation while other states are explained as deviations from the natural one. All states are on a par in an egalitarian theory; all equally in need (or not) of explanation. Still, such theories order the facts in an explanatory hierarchy, with some deeper than others they (asymmetrically) explain. A view that did not make any fact more fundamental than any other one would have to be nonreductionist.²⁵ But could it be a theory at all, could it be an explanatory theory?

One alternative picture to fundamentality is that of an organic unity: each statement or fact coheres with all the rest, each is explained by the way it fits with the rest. However, that leaves open the questions of why things are organically unified, what the connection is between something's cohering (with what?) and its holding true, why the fact that something coheres with the rest explains why it holds. The usual analogy is to a work of art.²⁶ However, that does have an underlying explanation in terms of the artist's intention (sometimes unconscious?) to produce a unified work. An item within the work is explained by its cohering with the rest, through the underlying force (stemming from the artist's intention) working to produce coherence in the painting. (Further explanation would be needed of these other items, either based on the theme of the work or on tentative beginnings introduced apart from coherence with anything yet existing.) Thus, the needed explanation of why there is organic unity among the facts seems to reintroduce distinctions in fundamentalness.

Might there be a principle of (or including) organic unity, from which other facts follow, that also is self-subsuming? Since self-subsumption establishes a tight relation of something with itself, a self-subsuming principle of organic unity presumably will contribute to a high degree of organic unity of the whole, especially given its connections to the other facts, some derivable from it, others having their relationships described by it. But will not this principle of organic unity then be the deep underlying principle, having a different status from the other facts?

Recall the situation with self-subsuming principles: each, because explained by itself, is not left simply dangling; yet given the multiplicity of such principles the question remains of why one self-subsuming principle, one version of LF, holds instead of another. This

question does not seem adequately answered merely by citing the ultimate principle and deriving it from itself, unless one holds this fundamental principle also is reflexive.

There might be a different sort of answer to this question with a self-subsuming principle of organic unity, for that principle might be the one that best fits in with the other facts. According to the explanation via (contributing to) high organic unity, the principle of organic unity, like everything else, would be explained by its mesh with other facts. Thus, it would not be deeper than these other facts, so the overall theory is not compelled to make distinctions in fundamentalness.

Still, won't there be many different equally coherent and unified worlds? If each is equally in accord with a principle of organic unity, why then does one hold rather than another? (This question parallels the familiar one put to coherence theories of truth.) That different worlds are (otherwise) equally coherent and so equally in accord with a principle of coherence does not show, however, that they cohere equally *with* this principle so that every combination of the principle of organic unity with each such coherent world would have the same degree of organic unity. A self-subsuming principle of organic unity, if it is to generate other facts, will embody some other characteristics as well, and each world, coherent in itself, may not cohere equally with these characteristics or with the self-subsuming nature of the principle. For example, worlds with self-reflexive beings may have a higher organic connection with a self-subsuming principle qua self-subsuming, not to mention with a reflexive principle, than a world otherwise without reflexivity. Nevertheless, I see no reason to think there is only one self-subsuming organic unity principle capable of generating other facts within a structure of high organic unity undistinguished in fundamentalness; so the question would remain of why one particular one holds, barring a reflexive account.

While such an explanatory arrangement via organic unity without distinctions in fundamentalness might conceivably be possible, I am not willing to endorse it here. Neither shall I now question whether explanation, including of how things are possible, is a favored and more fundamental route to discovering what things are really like, to the truth. There I draw the line! (At least, for now.)

Finding no happy substitute for explanation, or for laws, we are

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left with the nature of the real connection between general laws and the facts that instantiate them still unexplained, still in question.

Beyond

The important hymn from the Vedas, the Hymn of Creation, begins "Nonbeing then existed not nor being". This is the translation by Radhakrishnan and Moore.²⁷ In the Griffith translation, we find this as "Then was not nonexistent nor existent"; in the Max Muller translation, "There was then neither what is nor what is not."

How can what there was "then", that is, in the beginning or before everything else, be neither nonbeing nor being, neither nonexistent nor existent, neither is nor is not? For being and nonbeing, existent and nonexistent, is and is not, seem exhaustive. There does not seem to be any other possibility. In accordance with the law of the excluded middle, everything is either one or the other.

However, sometimes things that seem to exhaust the possibilities do not, rather they do so only within a certain realm. Consider color. Everything is either colored (singly colored or multicolored) or uncolored, that is, transparent. Either a thing is colored or it is uncolored, what other possibility is there? Yet the number 5, and Beethoven's Quartet Number 15, are neither colored nor uncolored. These are not the sort of things that can have or fail to have colors—they are not physical or spatial objects or events. (Do not confuse them with numerals or written musical scores, which can be colored.)

Let us say that this pair of terms (colored, uncolored) has a presupposition; it presupposes that the thing or subject to which the terms 'colored' or 'uncolored' are applied is a physical or spatial object or event. When the presupposition 'X is a physical or spatial object or event' is satisfied, then 'X is colored' and 'X is uncolored' exhaust the possibilities. When the presupposition is satisfied, X cannot be neither colored nor uncolored. However, when that presupposition is not satisfied, then X may be neither colored nor uncolored.²⁸

Similarly, the pair of terms (loud, not loud) presupposes that X is a sound or a possible sound source, that is, a physical object or event. The number 5 is neither loud nor not-loud. The pair of terms (harmonious, unharmonious) presupposes that a thing has parts related in a certain way. An elementary particle itself is neither harmonious nor unharmonious.

WHY IS THERE SOMETHING RATHER THAN NOTHING

Might it be that every pair of predicates that seems to exhaust the possibilities, apparently contradictory, has a presupposition beyond which neither of the terms applies? We might picture a presuppositional situation as follows (Figure 2.2). A rectangle represents all the things there are. Encircled things are the things that satisfy the presupposition. The pair of terms t_1 and t_2 divides up everything that satisfies the presupposition; each such thing is one or the other. Outside the set of things that satisfies the presupposition are all the things that are neither, things to which neither one of these terms applies. The crosshatched area contains those things that are neither t_1 nor t_2 .

There are two ways we can try to avoid there being any presupposition. Where the rectangle is everything that exists, everything there is, we can simply draw a line across it, across all of it, letting t_1 apply to one resulting part and t_2 to the other (Figure 2.3). Nothing is left outside.

However, this assumes that 'exists' exhausts everything, that there is nothing that doesn't exist. This need not faze us; if there are things that do not exist, Santa Claus, golden mountains, and so on, let our large rectangle be all those things that do or could exist, and let our line then distinguish those things that exist from those that do not. Surely, there is no presupposition now.

This assumes, however, that the pair of terms (exists, doesn't exist) does not itself have a presupposition, that it does not apply just to a certain range of things with something outside. It assumes that we do not have the situation shown in Figure 2.4, with the crosshatched area being those things that neither exist nor don't exist.

There is another way we might try to eliminate any presupposition. Until now we have been specifying a domain by the rectangle, and drawing a distinction within it. (I now use a wavy line for the distinction.) But we had worries that there was something outside

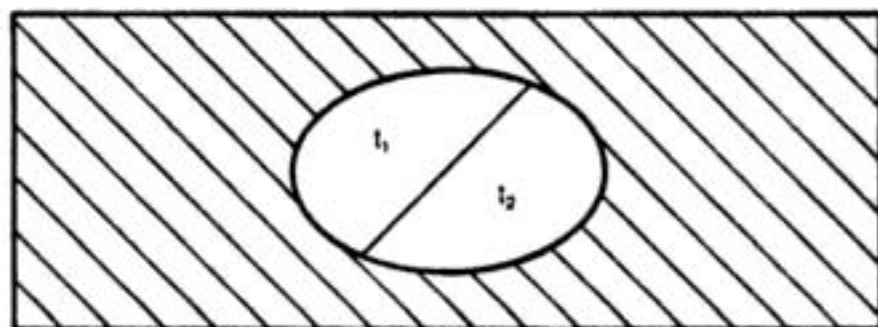


FIGURE 2.2

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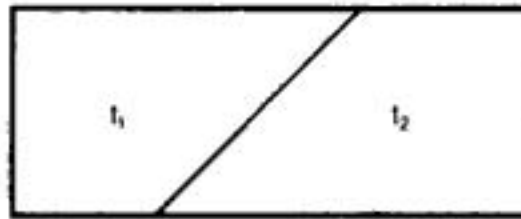


FIGURE 2.3

the domain, as in Figure 2.5. Why do we not instead just draw the distinction? In Figure 2.6 we mark t_1 off against everything else. There appears to be no further worry that there are things outside; t_1 is distinguished from whatever else there is.

However, there are reasons for thinking we encounter paradoxes and contradictions if we proceed without first specifying the domain and then drawing distinctions within it.* Also, we said “it is distinguished from whatever else there is.” But why think *is* does not itself have a presupposition? We distinguish t_1 from whatever else _____. If the blank itself has a presupposition, then the structure of the situation is as represented by Figure 2.7.

I suggest we understand the beginning of the Hymn of Creation, “nonbeing then existed not nor being”, as saying that the pairs being and nonbeing, existent and nonexistent, and is and isn’t have presuppositions, that the terms within these pairs apply and exhaust the possibilities only within a certain domain, while outside this domain a thing may be neither. Such theories are not unknown in the West: Plato says God is “beyond being” (*Republic* VI, 509b), and Plotinus makes this central to his theory of the One; Judah Halevi (*Kuzari* II, 2) holds that neither of a pair of contrasting terms applies to God; and there are other examples.

It is plausible that whatever every existent thing comes from, their source, falls outside the categories of existence and nonexistence. Moreover, we then avoid the question: why does *that* exist? It doesn’t *exist*. Strictly, that which is beyond those categories neither exists nor doesn’t exist. But if you had to say one, you would mention

* This is the usual moral drawn from the set-theoretical paradoxes. So set theory is done without a universal set which contains everything, or with a class which does but is ontologically different from what is within it and so not subject to the same manipulations as sets. Or, most securely, set theory is done in iterative fashion, starting with the null set and iterating operations to generate new and always limited sets.

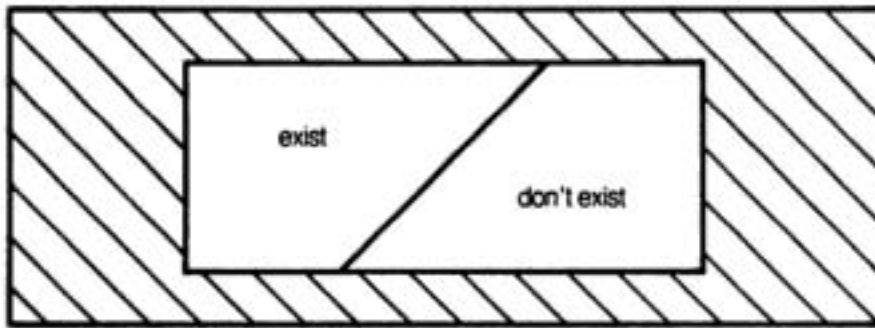


FIGURE 2.4

whichever of existence and nonexistence was closer to its status. If both were equally close or distant, if it was equidistant from both, you might say: it exists *and* it doesn't exist. We read this as: strictly speaking neither holds, and it is no more distant from one than from the other. This provides us with a possible explanation of the tendency to utter contradictions on the part of those who talk about such things.²⁹

There are at least four questions to ask about a theory that holds that the pair existence and nonexistence has a presupposition that can fail to be satisfied. First, what is the presupposition, what is the condition which all things that exist and all that nonexist satisfy, yet which need not be satisfied? Second, what reason is there to believe that something does fail to satisfy the presupposition, that there is something beyond existence and nonexistence? Third, is there a biggest box, with nothing outside it? And fourth, if there is, how can one tell one has reached it, that there is not still some hidden transcendable presupposition, outside of which is another realm that fits none of the previous categories?

This chapter is not the place to deal with all of these questions. Let me say just a few words about the first. Is the presupposition statable? Well, we can coin a short word. We can say that only those

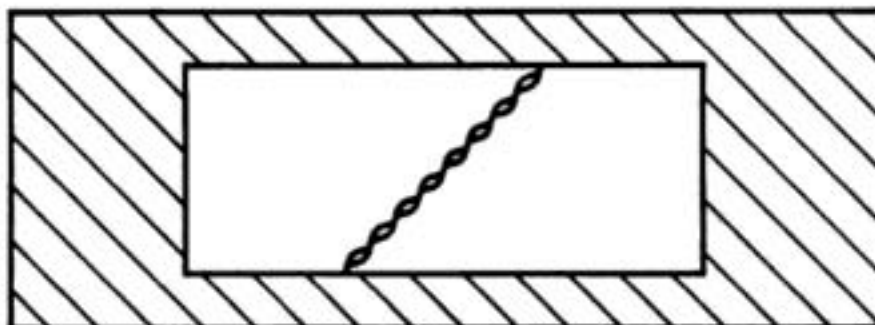


FIGURE 2.5

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FIGURE 2.6

things which *th* exist or nonexist, that the presupposition of the pair exist and nonexist is that there be (this is a verb coming up) *thing*.* We can coin this word to denote the presupposition, but can we explain it in terms we already understand?

It seems we can only come to understand the presupposition ostensively. We can state the boundaries and understand what they are only by standing outside them. If this is so, and if experience of what is outside the boundary is necessary to get one to see what the presupposition of the boundary is and to understand what can transcend it, then such experience will be necessary to understand the position, to grasp its content. The experiences can function not only to support the position (in the next section we shall consider the intricate question of whether they do so) but also to ostensively explain it. The ostensive route to understanding the position may be the only route we have, raising the possibility that all those who understand it realize that it is true. (Shouldn't some accounts of a priori knowledge be revised, then, to exclude this realization as a priori?)

Persons who have had such experiences struggle to describe them; they say all descriptions are inadequate, that strictly the experience is ineffable. This goes beyond saying that we cannot describe it in terms already available to us, that an ostensive encounter with it is needed to know what it is like and what any term applying to it means. Perhaps such ostensive acquaintance is needed to understand what sounds or sights are, an understanding which a blind or deaf person would lack (in the absence of direct stimulation of the brain to produce the experience). Still, those of us who do have the

* We can continue with a verb-form theory that goes beyond merely the presuppositional view. We might view "nothing" as the present continuous of the verb 'to noth', and "something" as the present continuous of the verb 'to someth'. Clearly, an *x* noths or someths, it is nothing or something only if it ths. What 'to noth' and 'to someth' have in common is 'to th'. (The following sentence contains three present continuous verbs, and no nouns except insofar as the quantificational structure does duty for them.) Only thing is nothing or something.

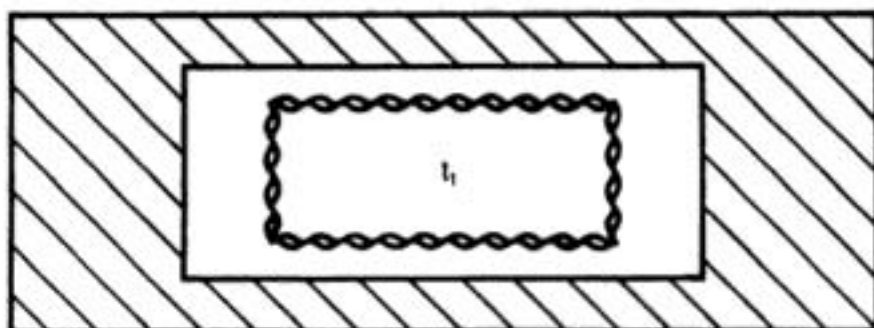


FIGURE 2.7

experience can produce a descriptive vocabulary to describe them. Sights and sounds are not ineffable. Perhaps those who call the experience of what is beyond existence and nonexistence ineffable merely mean that they cannot adequately describe it to those who have not had it. If so, their use of "ineffable" is misleading. Perhaps they mean something more, however, namely that there is a presupposition to the application of terms, that we normally live within the realm where the presupposition is satisfied and hence never consider the possibility that there is such a presupposition, and finally, that their experience has taken them beyond the realm of the presupposition to where terms, all terms, just do not apply. This raises problems of a familiar sort: what about second-level terms such as "ineffable" or "is such that first-level terms do not apply to it"? We can leave these problems aside now.

Of something that does not satisfy the presupposition of the pair exists and nonexists, and so neither exists nor nonexists, we cannot ask why it exists. But though it does not exist, it does _____. Some verb must describe its status; so let us just coin a verb, 'to aum', to fill in the blank. Auming is what that which is beyond existence and nonexistence does. It aums. Now it seems we can ask: why does it aum? Why does it aum rather than not?

If the ineffability doctrine were true and the presuppositions for the application of terms were not satisfied, then of course we could not coin a term for what it does and then ask why it does that. (But couldn't we just wonder "why?" and mentally gesture in the direction of the ineffable? Or does the term "why" fail to get a grip, along with the other terms?) To keep open the possibility of saying something further, I shall proceed on the assumption that a term can be applied so that a question can be asked. It aums, and we ask why.

Without knowing more about what is beyond existence and nonex-

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istence, and about auming, it is difficult to see how to begin to discuss the question. There is one structural possibility worth mentioning, however. Various versions of the ontological argument (for the existence of God) founder on their treatment of 'exists'. By treating existence or necessary existence as a property or perfection, they allow us to consider the n^{th} most perfect being ($n = 1, 2, 3, \dots$), and so to overpopulate our universe. What the ontological argument wanted to discuss, though, was a being whose essence included existence; it is a structural possibility similar to this, rather than the deduction of existence from the concept of a thing, that I want to take up. Can the nature of whatever is beyond existence and nonexistence include auming, so that there is no possibility that *it* does not aum? We need not suppose that we are (or aren't) speaking of God here; when it says "nonbeing then existed not, nor being" the Hymn to Creation is not speaking of God. Nor am I constructing an ontological argument from the concept of what is beyond existence and nonexistence to its auming. Perhaps auming is part of its essence without being part of the concept of it. Indeed it is difficult to suppose we have presented a determinate concept of it here at all, if the only route to knowing what is beyond existence and nonexistence and about auming is through an experience of it. My intention here is merely to raise the possibility that there is no room for the question "why does it aum?"

Consider, as an analogy, the structure of all possibilities. A particular possibility is realized or is actual or exists, and another is not realized and so nonexists. What exists and nonexists are particular possibilities. The structure of all possibilities underlies existence and nonexistence. That structure itself doesn't exist and it doesn't nonexist. A presupposition for the application of this pair of terms (exists, nonexists) is not satisfied by the structure of all possibilities. Now suppose we coin a verb for the status of the structure of all possibilities, saying that it *modes*. Is it clear that there is room for the question, why does the structure of all possibilities mode? Can *it* fail to mode?

I do not claim that the structure of all possibilities is what the Hymn of Creation begins with, or is what is found in experience. I believe that the Hymn of Creation means to speak of what underlies and gives rise to the structure of possibilities. What that might be we shall pursue in a later chapter. My purpose here is to give an exam-

ple of something that does not satisfy the presupposition of the pair exists and nonexists, yet about whose status there may be no room for the question why it does that, why the structure of all possibilities modes. All this is to give one some feeling for how there might be no room for the question of why what aums does aum. Even so, there still would remain the question of how and why existence and nonexistence arise from what aums. We shall say a bit about this connection later.

Mystical Experience

Assertions of something beyond existence and nonexistence, infinite and unbounded, appear in the writings of (some) mystics, not as hypotheses to answer questions of cosmogony but to describe what they have experienced and encountered.³⁰

How much credence should we give to these experiences? Undoubtedly such experiences are had and are sincerely reported, and they strike the mystic as revelatory of reality, of a deeper reality. Why deeper? What is experienced is different, but this does not show that it is deeper, rather than more superficial even than the reality we normally know. The experiences come as revelatory of something deeper. Should we believe the report of mystics that there is this reality? Should the mystics themselves believe it?

There are two major approaches to these experiences: first, to explain them away, to offer an explanation of why they occur that doesn't introduce (as an explanatory factor) anything like what the mystics claim to experience; and second, to see them as revelatory of a reality that is as it is encountered. To notice that there are special conditions under which such experiences occur, for example, after yogic practice or ingestion of certain drugs, does not settle which approach should be taken. What the first approach treats as a cause of the experience, the second will see as removing the veil from reality so that it can be perceived as it really is. Does the unusual physiochemical state of the brain produce an illusion, or does it enable us to experience reality?

We might think there is an evolutionary reason why the unusual brain states should not be trusted; our tendency to have the normal ones has been selected for in a process wherein too gross a failure to

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cognize reality led to extinction. However, if the underlying reality is as the mystics report, and if knowing it (as opposed to knowing the more superficial features of macro-physical objects) had no adaptive value, then we should not expect these normal brain states selected for in the evolutionary process to be ones that reveal the underlying reality as it is.

The procedure often used to induce the unusual experience, yogic or zen meditation, aims at "quieting thoughts", stopping our usual chatter of thoughts so that, as some say, we can experience the true self or at any rate a reality which the thoughts mask and cover. (And this sometimes may be an effect of other means, such as chemical ones, not consciously aimed at this result.) It is surprisingly difficult to stop thoughts from flitting about, but the difficulties of accomplishing this should not distract us from wondering what success shows. Supposing the procedure, when it succeeds in quieting the thoughts, does lead to an experience of the sort described, should we think this reveals something fitting the experience? That depends on what experience we think the procedure would produce even if there was no such unusual underlying reality to be perceived.

The following analogy may help make the point: Consider a phonograph system as an apparatus of experience. With the amplifier on, turntable turning, speakers on, a record on the turntable and the stylus moving in its grooves, sound is experienced; it (we are temporarily imagining) has the experience of sound. Now let us do the equivalent of quieting thoughts, namely, removing the record, perhaps also turning off the speakers and the turntable. When only the amplifier is on (with no ordinary "objects of experience" given it), what is the experience like? We do not know; perhaps infinite, unbounded, and so on, is what it feels like when the amplifier switch (of consciousness) is on, yet nothing is being experienced. Nothing differentiated is present to consciousness to produce a differentiated experience. It would be a mistake to think there is an unusual reality being encountered, when that merely is what it feels like when the experience-mechanism is turned on yet nothing is present to be experienced. None of the literature I know describes what experience the quieting meditative procedure would produce in the absence of any unusual reality or self, so we don't know whether the unusual experience is a revelation of an unusual reality or self, or instead an artifact of an unusual procedure of experiencing wherein most but

not all functions are damped down. (Will this debunking explanation have more difficulty in explaining the surprising and often momentous changes in the people who have the experiences?)³¹

Empiricist methodology, presumably, would have us treat the mystics' experiences as on a par with all other experiences, to be fed into some procedure of theory generation and support. The question is whether the resulting theory explaining (or explaining away) the mystics' experience that *p* will itself incorporate *p* or something like it. The answer will be interesting, however, only if the procedure itself is unbiased toward the mystics' claim; for example, it must not give it an almost zero a priori probability or degree of initial credibility, or give the mystics' individual experiences lesser weight than others in fixing either what is to be accounted for or how theories are evaluated.³²

We are far from knowing whether the mystics' *p* will be preserved as (roughly) true by the empiricists' account, even if we suppose it a maxim that the resulting explanatory theory incorporate (as true) as many *q*'s as possible from the experiences that *q* for which it tries to account. As much as possible, the theory is to save the appearances, including the experiences that *p*.³³ Perhaps this is not merely a maxim but a necessary component of any (unbiased) confirmatory and explanatory procedure we can wield. That we don't yet know whether the empiricists' explanatory theory will endorse the mystics' claim does not mean it is not an important question to raise.

Does the empiricist methodology distinguish between the mystic and the nonmystic? One has the experience while the other only hears it reported, but should this make a difference to what they believe? Certainly, a higher percentage of those who have had mystical experiences that *p* than of those who have not believe that *p* is true. Some of this difference in percentages will stem from the fact that many of those without the mystical experience will not know that such experiences are had by anyone or know of the probity of those who report them; or they simply spend less time thinking about the matter because, not having had the experiences that *p* themselves, the question of the truth of *p* is less salient to them. However, I believe there will remain a difference in the percentages after we control for all such facts. A higher percentage of the mystical-experiencers will believe in the veridicality of the experience, will believe that reality is as it then was experienced.

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Why should this be so? The experiences are very powerful, but the person without the experiences is told this and can weigh this in as evidence about veridicality. It is merely that the person having (had) the mystical experience cannot help believing its veridicality, or does he have reason to differ? We can imagine that a nongullible person has a powerful mystical experience, not easily dismissed, and wonders whether he should believe that reality is as it apparently has been revealed to be. What weight should he give to the fact that he himself had the experience?

Do I rationally give my experiences that q different weight than yours that r in constructing my picture of the world? My accepting that you have had the experience that r will be based on my experiences (of your reports), and so my experiences seem primary in that way. Once I have accepted the fact that you have had the experience, though, do I try to save your appearances any less than mine, your r 's less than my q 's?

If somehow we were telepathically connected with a creature in another galaxy or universe, having its experiences, then we must give those some credence as our access into what that world is like. Must we give more credence to them than to the experiences of other denizens of that realm (which we come to know of via our telepathic contact)? Apart from the earlier point about primacy, apparently not. And aren't we each in our own world simply in special telepathic communication with ourselves, as it were, so that it would be similarly inappropriate to give our own experiences that q special weight or credence as compared to other's experience that r ?

Alternatively, imagine an amnesia victim who is being told of the experiences of different persons, including some people's mystical experiences. He comes to hold a general picture of the world which, let us suppose, rejects the mystics' claim that p . Should it make any difference to his belief if now he is told: you were one of the people who had that mystical experience. Surely not. He has already considered how much evidential weight to give the fact that such an experience was had (under certain conditions with a certain frequency), how much weight to give to the fact that *someone* had the experience; it is irrelevant further information that the someone was himself (rather than another of the same specified degree of probity, sincerity, and so on).

Yet there remains something special about the mystical experience

whereby it evades this general argument. Because this mystical experience is ineffable, powerfully (if not indelibly) remembered but inadequately described, the mystic knows something the hearer of his reports does not. The hearer does know something, though, for later if he does have the experience he will know that must be what the other was reporting.* We need not hold that nothing can be transmitted by imagery, metaphor, and so on; only that something significant evades the description.

The experiencer knows what the mystical experience is like in a way and to an extent the attentive listener does not, and in a way and to an extent the amnesiac does not who is told he once had a certain sort of experience which he doesn't remember. Relevant is not simply the fact that the experiencer had the experience, for the amnesiac also had it, but the way this fact normally shows itself in the person's evidential base. There is evidence available to the experiencer (who remembers) that is not available to the hearer or the amnesiac. So there is a reason for him to reach a different conclusion than they do. We can see how he *might* reasonably believe that *p* (that there is an infinite underlying reality transcending existence and nonexistence) while they could not. This explanation does not show that the person with mystical experience does reasonably differ in his view that *p*; but it does leave room for such a difference, showing how such a reasonable difference might be possible.

What should a person without mystical experience, who realizes all that has been said thus far, believe? He knows that almost all those who have mystically experienced that *p* believe that *p*, and that something about their experience, which eludes telling and so is unknown to him, may (properly) play a role in their belief. This additional information may make it somewhat more reasonable for him to believe that *p*, but he still is not in the position of the experiencers. For he will face the question of whether the (unknown) character of the experience was such as to make it reasonable to believe *p*. Perhaps the experiencers are especially gullible, either because there is

* Though even this may be unclear. For example, Madhyamika Buddhists report experiences of emptiness, of a "vibrant void", while Vedantists report an experience of the fullest possible pure infinite existence: existence-consciousness-bliss. Are they experiencing the same thing? It would help to have someone who reported (in the suitable language) having both experiences (and that they were different), rather than all reporting only one or the other.

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selective entry into the class of experiencers, the mystical experience coming only to the already especially gullible and credulous, or because the experience makes people gullible, causing them to become gullible and credulous, either generally or just about the import of this particular experience. (Should the mystics not be concerned about this, too?) Certainly mystics often appear gullible and credulous in the rest of what they accept. But is this because of a general gullibility, new or old, or rather because they reasonably have shifted their general picture of the constitution of the universe which leads to a shift in other a priori probabilities or expectations, so that some things previously excluded as impossible now will seem possible, and less evidence is needed to establish them as actual?

Lacking firsthand acquaintance with the mystical experience, and so having an ineradicably different evidence base, the non-experiencer may reasonably reject the mystics' claim that p , while admitting the mystic may be reasonable in believing that p . The mystic may now claim one further bit of support for the truth of p , other than mystical experiences that p . If p , as a hypothesis, provides an answer to the question of why there is something rather than nothing, then performing this function provides it some support. Thus we have two independent routes to p , each reinforcing the other: the experiential route of the mystic and the explanatory route in philosophical cosmogony.

That the (purported) fact that p is the right sort of thing to explain why there is something rather than nothing does not show how it does this; it does not show what the particular connection is between the fact that p and our universe, or its contents, in detail. Here we must be careful about the mystic's claims, distinguishing those p 's for which he claims or reports an experience that p from other statements that he introduces as hypotheses to connect the deep underlying reality he experiences with the superficial one he normally inhabits. These connections the mystic does not himself (even claim to) experience, and they have lesser authority than his experiences. The mystic's special knowledge of his experience does not extend to a special authority about its (and its object's) connection to ordinarily perceivable reality; for this connection does not link with, much less get revealed in, the ineffable character of the experience.

For this reason we find many theorists of the connection, even among mystics; some see our world as an illusion (to whom?), others as like a work of fiction, others as a thought, others as an emanation,

others as a creation, and so on, views all based on the fundamental underlying reality described in *p*. The fact is, I think, that what is experienced by the mystic is so different from our ordinary world, yet is experienced as underlying that world and as more real, that the mystic gropes or leaps for some explanation, for some theory of how it underlies the world, of how the two might be connected. Similarly, the mystic who experiences himself as the infinite perfect underlay of everything, neither existing nor nonexisting, whether in the experience that Atman = Brahman or in the experience of being the void, has to explain why he did not always realize this, his own true nature. Since he didn't experience himself becoming ignorant, his explanation of his (recent) ignorance is always (only) a hypothesis. So mystics present different theories here as well. Greater credence should be given to the mystic's experiences than to his hypotheses, both by the nonmystic and by the mystic.*

* Though, perhaps some mystical experiences can (seem to) indicate something about the character of the connection, even if not the details.

Some of the yogic mystical experiences are of the self as being the underlying substance of the universe or an infinite purity; also, I think, of it as turned back onto itself, creating itself, the experiential analogue of self-subsuming.

The practitioner of Hatha Yoga develops extraordinary suppleness and physical capabilities, and the yoga manuals are explicitly dark and mysterious about some of the practices. In these classic manuals, the practitioner of yoga is warned to keep some things very secret and to do them only in private. For example, *Gheranda Samhita*, i, 13-44, contains five admonitions that different practices are very secret; *Siva Samhita*, iv, 41-44, says the "wise Yogi" should "practice this . . . in secret, in a retired place." See the passages quoted in Theos Bernard, *Hatha Yoga* (Columbia University Press, 1943, reprinted by Samuel Weiser, New York, 1950), pp. 34 and 69. For an indication of the suppleness of body developed, see the photographs there.

Printed interpretations and explanations of what is involved leave the practice innocuous. (For example, M. Eliade, *Yoga*, Princeton University Press, 1969, ch. 6. For discussion of reading esoteric texts, see Leo Strauss, *Persecution and the Art of Writing*, Free Press, Glencoe, 1952.) They leave it wholly mysterious why secrecy is enjoined, why if that is all that is involved, the manuals do not say it straight out. It is a general principle in interpreting texts which announce they hold secrets, however, that the secret doctrine should turn out to be something the writer would go to great lengths to keep secret.

In these yoga manuals the actions and postures of the practitioner are meant to lead him to the secret. When the doctrine itself is to be conveyed by the text, though, the writer has a special problem: having announced that a secret is embedded in the work, how can he prevent its detection by the very ones from whom he wishes to keep it secret, who have been told explicitly

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More than clarifying the issues somewhat, I wish I could resolve the question of whether reality is as the mystic describes it. I take the question, and the mystics' experiences, very seriously, which some will think immediately is a great mistake. (But do they think this only because they already assume a background theory that discounts the mystics' experiences; if so, what led them to that theory?) For the purposes of philosophical explaining and understanding, we need not resolve the question; it suffices to consider, elaborate, and keep track of the hypotheses. Yet there remains the question of how to act, of what path to follow.*

that there is some secret to be found? The writer has to bury something that can be ferreted out to satisfy the unwelcome seeker, a decoy secret. This must be something the writer plausibly would want to keep secret; otherwise it will not be a successful cover. How will one know if one has found the valuable silver or the more deeply hidden gold? If only one thing has been uncovered, being the easier to find, it is not the real secret. But has any author buried a secret doctrine underneath two covers? (Or flashed the fact of contained secrets, without announcing it, by discussing esoteric devices, I mean doctrines, rambunctiously?)

What are the yoga manuals keeping hidden, which the practitioner is expected to come to himself? What does the cutting of the *fraenum linguae* aid? What nectar is brought upwards and drunk? What is the mouth of the well of nectar over which the tongue is placed and what ambrosia is drunk daily? (These are the terms used in the yoga manuals. See Bernard, *Hatha Yoga*, pp. 30, 65-67.)

I conjecture that one of the acts the (male) yogis perform, during their experiences of being identical with infinitude, is auto-fellatio, wherein they have an intense and ecstatic experience of self-generation, of the universe and themselves turned back upon itself in a self-creation. (Compare the mythological theme of creation from an *ouroboris*, a serpent with its tail in its mouth.)

Here I have only conjecture to go on, and this conjecture may well be mistaken. But it does specify something the yogis in their altered consciousness might seek and regard as a pinnacle, yet, even with their disdain for the ordinary practices and opinions of the world, also seek to keep a secret.

What tantric yoga involves, we won't conjecture.

* However, perhaps there is less urgency to the decision than we think. Siddhartha Guatama's statement notwithstanding, is the house on fire? If the theories centering on such experiences are correct, we live a sequence of lives, and so we can hope that in a later one the matter will become clearer. While if we have only this life, then these theories are incorrect and we should not follow them. So in either case, we should not follow an arduous Eastern path now. Unless, of course, the Eastern theories are correct, and the karmic consequences of acting on this argument, having come so close to realizing the truth, push one further away from it for innumerable future lifetimes.