from Steven D. Hales, ed. Metaphysics: Contemporary Readings (Wadsworth) 1999, pp. 7-25.

On Explaining Existence (Real Possibility as the Key to Actuality) 1

NICHOLAS RESCHER

"Utcunque regressus fueris in status anteriores, nunquam in slatibus rationem plenam repereris, cur scilicet aliquis sit potius Mundus, et cur talis." G. W. Leibniz, *Phil.* VII (Gerhardt), p. 302.

SYNOPSIS

(1) THE "RIDDLE OF EXISTENCE" poses the question of why anything exists at all. This question is often dismissed as improper—but on rather dubious grounds. (2) Various responses to the question are in principle available, including primarily the following six possibilities: the theological, necessitarian, rejectionist, nomological, mystificational, and acausal. (3) Mystificationism affords an unappealing prospect. (4) And the acausal approach is inherently problematic. (5) Nor is it appealing to invoke the supernatural for natural explanation. (6) Necessitarianism is too peremptory to provide an acceptable account. (7) The rejectionist approach is also questionable. (8) Despite its difficulties, the best available option is the nomological approach—which grounds natural existence not on the operation of *preexisting things* but rather in a *lawful principle* of some sort. (9) Such a principle is provided by the fundamental "protolaws" of nature, which draw the line of demarcation between mere possibility and real possibility. The fundamental laws can be conceptualized as representing conditions FOR existence rather than conditions OF existents: They are not so much laws OF nature as laws FOR nature. (10) If these laws take a suitable form—that of a "hylarchic principle" which *constrains* (rather than *causes*) the nonemptiness of the world—then they can provide an answer to the question of why things exist. (11) Appendix: One can in principle use this same approach to explain not only the *existence* of things but also their *character*—in other words, to explain the existence of *these particular* things. But the demands of such a position are so strong as to render it rather implausible.

1. THE RIDDLE OF EXISTENCE

On December 3, 1697 (November 23, O.S.), Gottfried Wilhelm Leibniz sat late (for he was generally a night-worker) in the large, book-filled workroom of his apartment in the large timbered house of the patrician widow von Anderten in the fashionable Leinstrasse in Hannover, close to the old ducal palace whose library was now partly housed in these quarters under his charge. Pausing occasionally to glance at the fire that kept the chill of the winter's night at bay, he composed a short Latin tract "On the Ultimate Origination of Things," (*De rerum origionatione radicali*).[1] In this essay, Leibniz addressed the ramifications of a metaphysical issue that occupied him on many occasions: Why is there something rather than nothing? Why are there physical (contingent) existents at all? Why does anything whatsoever exist in the world?

From Nicholas Rescher, The Riddle of Existence *(Lanham, MD: University Press of America, 1984). Reprinted by permission of Nicholas Rescher.*

Leibniz realized that the existence of *a* world is pretty much inevitable—that if one is prepared to count even the "empty world" as a world, then the existence of a world is categorically necessary.[2] But of course it does not follow (save by a wholly illicit process of reasoning) that a particular world (this world) necessarily exists.[3] Specifically, the existence of a world with *things* in it, a nonempty world, remains an open problem.

Moreover, Leibniz realized that this issue of the *existence* of a nonempty world is more fundamental than and conceptually prior to the issue of its *nature*. The question "Why is there a world with things in it at all?" is conceptually prior to the question "Why is the world as it is—why do its things have the character they do?"

Leibniz also recognized that it is not *creation* that is at issue. Whether the world is eternal (as Aristotle had taught) or created (as Christian theology had argued against him) is immaterial. The question of the character of the world—*why* it contains "things"—will arise either way.

For a long time after Leibniz, philosophers turned their back on this "riddle of existence." They inclined to construe it as a request for an explanation for everything-all-at-once, and followed Hume and Kant in thinking it is not rationally appropriate to ask for such global explanations.

But the question has refused to go away. In the manner typical of deep philosophical issues, it resists burial and keeps springing back to life.

It was Henri Bergson who revived the issue as a topic of 20th-century philosophy. In his classic *L' Évolution créatrice* he wrote:

> I want to know why the universe exists; and if I refer the universe to a Principle immanent or transcendent that supports it or creates it, my thought rests on this principle only a few moments, for the same problem recurs, this time in its full breadth and generality: Whence comes it, and how can it be understood, that anything exists? . . . Now, if I push these questions aside and go straight to what hides behind them, this is what I find:—Existence appears to me like a conquest over nought . . . If I ask myself why bodies or minds exist rather than nothing, I find no answer; but that a logical principle, such as A = A, should have the power of creating itself, triumphing over the nought throughout eternity, seems to me natural. . . . Suppose, then, that the principle on which all things rest, and which all things manifest, possesses an existence of the same nature as that of the definition of the circle, or as that of the axiom A = A: the mystery of existence vanishes. . . .[4]

Clearly, however, this idea of a "conquest over nothingness" along essentially logical lines is highly problematic. The "principle on which all things rest" simply cannot "possess an existence *of the same nature*" as that of a definition or logical axiom because (on the modern conception of the matter, at any rate) these are purely conceptual truths of reason ("analytic" truths) from which no factual juice can be extracted. Getting real existents from pure logic is just too much of a conjuring trick. That sort of hat cannot contain rabbits.

Martin Heidegger held that the question of "Why is there something rather than nothing?" is actually the most fundamental question of metaphysics, characterizing the entire subject as the "exfoliation" of this problem.[5] Heidegger, however, was much less concerned to find a solution to the problem than to explain why the desire for an answer is part of the human condition and in examining its implications for the nature of man. Heidegger's interest was not in answering the question, but in considering its significance for us as a creature who, in the (inevitable?) absence of understanding, confronts nothingness in the existential phenomenon of *Angst*. As one recent commentator observes: "So daunting is the question [of existence] that even a recent exponent of it, Heidegger, who terms it 'the fundamental question of metaphysics,' proposes no answer and does nothing towards showing how it might be answered."[6]

Ludwig Wittgenstein was also fascinated by this issue. He maintained that "Not *how* the world is, is the mystical, but *that* it is."[7] He told Norman Malcolm that he sometimes experienced "a certain feeling of amazement that anything should exist at all."[8] In *A Lecture on Ethics*, he returns to this theme: "it always happens that the idea of one particular experience presents itself to me . . . [and] the best way of describing it is to say that when I have it *I wonder at the existence of the world*. And I am then inclined to use such phrases as 'how extraordinary that anything should exist' or 'how extraordinary that the

world should exist'."[9] Relegating the issue to the limbo of mysteries conveniently provided Wittgenstein with a plausible reason for not dealing with it seriously. He dismissed those aforementioned locutions he was "inclined to use" as nonsense, because "It is nonsense to say that I wonder at the existence of the world, because I cannot imagine its not existing."[10] The difficulty here lies in the ambiguity of "the world," which might just mean *some* world or other, possibly including the empty world (in which case the wonder should indeed diminish—and the interest of the issue with it), or *this* particular world (in which case Wittgenstein would emerge as very unimaginative indeed).

In recent days the problem has been the topic of an erudite but obscure book by Anna-Teresa Tymeniecka,[11] which grapples valiantly with the issues without any signal success in rendering them intelligible. It is also the subject of a long chapter in Robert Nozick's *Philosophical Explanations.* But this interesting and many-faceted discussion culminates in a recourse to a mystical understanding of nothingness that cannot, even on kindest interpretation, be said to throw much light on the subject. In fact, one usually good-natured reviewer was provoked by the tenor of Nozick's discussion to protest against

> its lack of restraint. By the time one has struggled through this wild and woolly attempt to find a category beyond existence and non-existence, and marvelled at such things as the graph showing "the amount of Nothingness Force it takes to nothing some more of the Nothingness Force being exerted," one is ready to turn logical positivist on the spot.[12]

One recent writer contemplates the prospect of making short shrift of the issue:

> "Why is there something rather nothing?"—"If there were nothing, you wouldn't be here to ask the question." Ask a silly question, get a silly answer. . . . [W]hat makes the answer silly is that it tells the questioner no more than he must have known already.[13]

Actually, what makes the answer silly it that it answers the wrong question. It's like responding "Because he's now in the room" to the question "Why did Smith go through the door?" We *know* that Smith went through the door because he's in the room, and we *know* that there's something in the world because here we are. These answers are perfectly good responses to "How do you know that . . . ?" questions. But they are miserably inept answers to "Why is it the case that . . . ?" questions. They reflect a posture that ignores the traditional and very useful distinction between knowledge-oriented *rationes cognoscendi* and fact-oriented *rationes essendi.*

In general, it might be said that those philosophers who do not evade the problem by rejecting it as meaningless or intractable are profoundly intimidated by it. Whatever good sense they may display in other contexts deserts them on this occasion. With the notable exception of Leibniz, philosophers who have struggled with this riddle of existence have always found it difficult to keep their discussion of the issue on this side of nonsense.

And yet, this issue of the existence of things is to all appearances, as fundamental, profound, and serious a problem as any that philosophy affords. Given that only one among alternative possible worlds exists—possibilities among which an empty world also figures—why should it be that the actually existing world is one of the nonempty ones—one with *things* in it? More generally, why should *this* world be actualized rather than *that* one? Such a question is not lightly got rid of. Certainly it is not resolved by the fact of being embarrassingly awkward to deal with.

To be sure, the question of why anything whatsoever exists in the world has its problematic side. The global, universalistic character of such a question is bound to be a source of difficulty. When we try to develop an answer by the usual device of explaining one thing in terms of another, the former immediately expands to swallow the latter up. The question of existence-in-general cannot be dealt with as one of the standard generative sort that asks for the existence of one thing to be explained in terms of the existence of another. We cannot say "Well there's X in the world, and X explains the existence of things" because this simply shifts the issue to X, which after all is itself an existent. If we want *global* explanations of existence of things in the world, we are going to have difficulty in getting them from existential premisses pertaining to what the world is like. Does this mean we cannot get them at all?

Clearly what is wanted represents a very tall order. If we cannot use existential inputs, then we are asking for a great deal—an account that explains the emergence from an existentially *empty* realm of a *nonempty* world, a domain of existents. The explanation has to pull off a very neat trick: it has to account for a "change of phase" of certain items from the condition of mere possibility to the condition of actuality.

Table 1 An Inventory of Possible Responses to the Question: "Why Is There Anything at All?"

I. The question is illegitimate and improper. [*Rejectionism*]
II. The question is legitimate
  1) but unanswerable: it represents a *mystery*. [*Mystificationism*]
  2) and answerable
    a) though only by the *via negativa* of an insistence that there really is no "answer" in the ordinary sense—no sort of explanatory rationale at all. The existence of things in the world is simply a brute fact. [The *no-reason* approach.]
    b) via a *substantival* route of roughly the following sort: "There is a substance [viz. God] whose position in the scheme of things is one that lies outside the world, and whose activity explains the existence of things in the world." [The *theological* approach.]
    c) via a *nonsubstantival* route of roughly the following sort: "There is a principle of creativity that obtains *in abstracto* (i.e., without being embedded in the characteristics of any substance and thus without a basis in any preexisting thing), and the operation of this principle accounts for the existence of things." (The *nomological* approach.]
    d) via the quasi-logical route of considerations of absolute necessity. [The *necessitarian* approach.]

2. ALTERNATIVE RESPONSES

The question of existence can, in theory, be handled by any of the various lines of response set out in Table 1. This inventory pretty well exhausts the range of available alternatives. We may refer to these six approaches as the *rejectionist, mystificational, arational, theological, nomological,* and *necessitarian* solutions, respectively. Let us examine the assets and liabilities of these various positions.

3. THE MYSTIFICATIONAL APPROACH

The mystificational position sees the "problem of existence" as genuine but unsolvable. It classifies the question as an authentic *insoluble* to which no satisfactory answer can be found.

This approach recognizes the problem of the existence of things in the world as legitimate and acknowledges that we have a real and pressing interest in this issue. But it insists that we cannot profitably pursue this interest. With sceptical philosophers and Barthian theologians, it poses the question: Have we a right to demand a reason for things? Can we avoid recognizing that this question is simply beyond the powers of human intelligence? Is it not untenably presumptuous to demand that reality should satisfy our intellect's demand for "natural explanations"? And can we suppose that an explanation so accessible that *we* would deem it plausible actually gets at the real truth of things? Mystificationism insists that, while the question is indeed appropriate, the attainment of any satisfactory solution to it nevertheless lies beyond our reach.

The clear advantage of such a noncommittal approach is that it spares us the daunting and difficult task of framing a serious proposal for answering the riddle—of trying to arrive at some definite resolution. But its obvious disadvantage is its leaving us in a state of suspended animation with regard to this challenging and intriguing problem. To see all prospect of solution as unattainable is to leave matters unresolved. It means that we can only contemplate possibilities for resolution but cannot settle the matter of deciding among them.

Now it is perfectly conceivable that this condition of indecision and suspension of judgment as between the alternatives (of indecisive *isostheneia*, as the ancient sceptics called it) is a position in which we will eventually find ourselves. It is altogether possible that, after determined but vain

attempts at finding a satisfactory answer, we might be led to conclude in the end that no such answer can be validated. We may even eventually convince ourselves, Fox and Grapes fashion, that further effort is not worthwhile—that the game is not worth the candle. But this sort of thing is clearly a position of last resort. To speak of an intrinsic *mystery* here serves rather to highlight the difficulty than to remove it. We may conceivably find ourselves driven there eventually, but it is hardly the place to start. Indeed it seems plausible to clutch at any straw to avoid this result. Given the interest of the issue and its importance for the project of achieving a rational grasp on our place in the scheme of things, if there is any reasonable way to avoid agnosticism here, it seems well advised to avail ourselves of it.

The key point is this. The existence of the world is contingent: given that other alternative modes of world-arrangement are theoretically *possible* (in particular an empty world) we want to know why the world exists as it does (and in particular why it contains *things)*. The recognition of this world's contingency—of its being one alternative among others—cries out for explanation so urgently that in its absence we cannot rest intellectually satisfied.[14] What is at issue here is not a metaphysical Principle of Sufficient Reason maintaining on grounds of general principle that every phenomena has an effective explanation, but a *methodological* principle to the effect that we should always do our utmost to find sensible explanations of phenomena so long as any hope of doing so remains.

Admittedly, we cannot preestablish that reality will indulge our demands for intelligibility. But we have no sensible alternative to proceeding on the supposition that our explanatory guest can prove successful—that there indeed is an explanation which might be found. We cannot win the race if we do not enter it—and one price of entry is the supposition that a finish line exists.

4. THE ARATIONAL APPROACH

The arational resolution in effect maintains that things exist "just because." It takes the stance that there simply is no particular reason for existence. This well-stocked universe of ours has somehow just happened into being—its existence is simply an irrationalizable brute fact. There really is no explanation for the world's nonemptiness: "That's just the way it is"—take it with no further questions asked. (Recall Carlyle's remark on being informed that some lady said she had learned to accept the world—"By God, she'd better!") The world's existence, as is, is simply a "brute fact."

But this is surely no more than a solution of last resort. It is like the explanation "on impulse" offered to account for someone's action. It is not so much an answer to the question of explanation as a concession of defeat—an indication that our efforts at finding a more adequate solution have failed. The arational approach verges on mystificationism.

Perhaps the world's existence is not a matter of brute (i.e., inexplicable) fact, but simply needs no explanation. Perhaps the request for an explanation of things-in-general rests on a mistaken basis. Perhaps only *particular* items need be explained and it is a sort of category-mistake to ask for explanations at the level of generality. This seems to be what Bertrand Russell argued against Father Copleston in their celebrated BBC debate on God as a first cause:

> I can illustrate what seems to me your fallacy. Every man who exists has a mother. And it seems to me that your argument is that therefore the human race must have a mother. But obviously the human race hasn't a mother—that's a different logical sphere.[15]

On such a view, there is—indeed there can be—no appropriate explanation of the world's existence or fundamental nature.

But Russell's reasoning is flawed. Granted, the fact that every individual member of the class C (humans) has a cause of type X (i.e., has parents) of course does not mean that the totality of the class C will have a cause *of this particular type*. But this does not imply that we should not look for a cause of C-as-a-whole—for example that once we know that children are born of parents we should cease trying to account for *homo sapiens* at large within the framework of evolutionary explanation. Russell's counter-example does not show that we should not ask for an explanation at all, just that we should not ask for one of a particular sort.

To be sure, theorists sometime maintain that when a whole has been explained via its parts, taken distributively, there is nothing left to explain regarding that whole, taken collectively. As David Hume's Cleanthes puts it:

> [E]ach part is caused by that which preceded it, and causes that which succeeds it. Where is the difficulty? But the whole, you say, wants a cause . . . Did I show you the particular cause of each individual in a collection of twenty particles of matter, I should think very unreasonable, should you afterwards ask me what was the cause of the whole twenty. This is sufficiently explained in explaining the cause of the parts.[16]

This Humean position holds that if we are in a position to explain any and every member of a series of events (even an infinite one) we are *thereby* in a position to explain the series as a whole.

This *sounds* good. But will it do? Each member of the team is present because he was invited. Does that explain why the team is present as a whole? When we ask for explanations about the team, we ask not just about its several members, but about the team as a team. The idea that we have accounted for the class as a whole when we have accounted for each one of its members is quite false. Even when we account for everyone of its members we have not explained the species as a whole. Explanation at the distributive level does not achieve explanation at the collective level—even when we have resolved the former issue, a genuine explanatory question still remains.

In explanatory contexts the move from parts to whole is highly problematic. Consider an example. We can explain for any time t of his lifespan why Kant never left Prussia roughly as follows. For every such t, there is a timespan e such that at $t - e$ he was at such-and-such a location in Prussia, and there simply was not enough time, given the available means of locomotion, for him to reach the boundary within the timespan e. That does it alright. But would anyone hold that this yields an *adequate* explanation of why, throughout his lifetime, Kant never left Prussia?[17] We must not be misled into thinking that we have explained the whole as such when we are in a position to account for its membership *seriatim*.

When we ask an explanatory question about a whole, we don't just want to know about it as a collection of parts, but want to know about it holistically qua whole. A seriatim explanation of why each and every dodo died is not thereby an explanation of why this type of bird died out as a species. When we know why each particular day was rain-free (there were no rain clouds about at that point) we still have not explained the occurrence of a drought. Here we need something deeper—something that accounts for the entire *Gestalt*.

Given a set S, we may have an explanation regarding each of its members:

$$(\forall x \in S)(\exists e)eEx$$

But this does not assure us of a single, all-encompassing explanation for the entire set:

$$(\exists e)(\forall x \in S)eEx$$

Only by indulging in an illicit quantifier inversion can one claim that a distributive explanation of parts yields a collective explanation of wholes.[18] Hume to the contrary notwithstanding, if we have a collection of explanations of the parts (even an exhaustive one!), we do not automatically have an answer to our explanatory questions about the whole. The existence of explanations for each-and-every member does *not* provide for an explanation of the group-as-a-whole. And we are perfectly entitled to ask for such an explanation. There must—surely—be some "reason why" for every fact about the world—aggregate facts included.[19]

To reject the arational approach we need not maintain a substantive Principle of Sufficient Reason—we need not preestablish that there indeed always is some sort of explanation for any fact about the world. It suffices to take the methodological line: proceed on the assumption that there always is an explanation; hew to this working hypothesis through thick and thin. For the issue is an important one and as rational beings we would like to settle it to our rational satisfaction. It makes good sense to operate on the principle that even when our best efforts at finding an explanation bear no fruit, this is so simply because we haven't looked far enough. From the methodological perspective, the no-reason approach appears not as a resolution of the issue, but as an excuse for not dealing with it with sufficient determination.

One could properly take the arational line only if there were good reasons based on appropriate positive information for holding that there cannot be an answer—that the line of "no possible explanation" is appropriate. (We can, for example, take this line in quantum theory: asked why this atom of a transurancic element disintegrated just when it did the response is to say that no causal explanation is *in principle* possible.) But this approach is not available to us in the case at hand. There is no earthly reason to think that this sort of situation obtains. Nobody had produced a good *argument* why the arational approach should be endorsed. Its sole recommendation is that it affords a convenient exit from difficulty.

5. THE THEOLOGICAL APPROACH

The ancient tradition of "the cosmological argument" resolves the question of world's existence (and nature) by recourse to the productive agency of a creator God.[20] This theological approach is so familiar that little need be said about it. It grounds the existence of the world's things in the machinations of a world-external creative being—a necessarily existing agent who is self-subsisting and, in turn, serves as causal ground of the existence of the things of this world. God is thus seen as creator (*causa mundi*), and as himself as uncaused (or self-caused, *causa sui*) to avert the regress threatened by the question: Why is there a Supreme Being rather than nothing?

For a long time in the history of human inquiry, people inclined to answer ultimate questions about the world with the response: God made it that way. Yet this approach to the issue has its problems. The presence of things in the world is a matter of natural fact, and the explanation of natural facts by theological means is hardly a satisfactory option. The point is not simply that the *odium theologicum* is too strong at this time of day for a supernatural grounding of natural existence to be deemed acceptable. It is that questions about the natural order should be addressed in nature-correlative terms of reference wherever this is at all possible. Kant's formulation of the point cannot be improved upon:

> To have recourse to God as the Creator of all things in explaining the arrangements of nature and their changes is at any rate not a scientific explanation, but a complete confession that one has come to the end of his philosophy, since he is compelled to assume something [supernatural]. . . to account for something he sees before his very eyes.[21]

The drawback of the theological solution to the problem of existence is that it uses a sledgehammer to crack a nut. It is unsatisfying to try to answer such questions, with Descartes, through recourse to the *mere will* or, with Leibniz, through recourse to the *good will* of the divine creator, because of the rational proprieties implicit in the scholastic dictum that scientific deliberations are not entitled to an explanatory recourse to God (*non in philosophia recurrere est ad deum*). Whatever be God's proper role in the scheme of things, it is not to solve our philosophical or scientific difficulties. Invoking a supernatural agency to solve our problems in understanding nature is inherently questionable etiquette.

No doubt a principle that can explain the existence of things in the world will have to invoke circumstances that are in some degree extraordinary and *preternatural* in being outside nature's common course, but it need not go so far as to invoke something *supernatural*—something as much "above" or remote from nature as the omnipotent deity of traditional monotheism. What is at issue here is simply a point of methodology, of explanatory economy, of accomplishing desired ends by the least complex means. If there is any prospect of resolving a question in a more straightforward way, we should avail ourselves of it.

6. THE NECESSITARIAN APPROACH

The necessitarian approach has it that the world exists as a matter of strict (or "logical") necessity. Its very nature requires its existence: like the God of traditional theology, it is something that cannot but exist. This approach was already encountered in the Bergson passage quoted above. It proposes to explain existence as somehow a matter of "logical principle." We are called on to take the stance that "the principle on which all things rest, and which

all things manifest, possesses an existence of the same nature as that of the definition of the circle, or as that of the axiom $A = A$."

But such a way of addressing the problem of existence is simply too peremptory. Given that alternatives can readily be conceived, how can one possibly establish necessitarian inevitability? How could the constraints of logic alone possibly engender the arrangements of fact? Even to consider this alternative is to become persuaded of its unmanageability.

7. THE REJECTIONIST APPROACH

Questions like "Why is there anything at all?", "Why are things-in-general as they actually are?", and "Why is the law structure of the world as it is?" cannot be answered within the standard causal framework. For causal explanations need inputs: they are essentially *transformational* (rather than *formational* pure and simple). They can address themselves to specific issues distributively and seriatim, but not collectively and holistically. If we persist in posing the sorts of global questions at issue, we cannot hope to resolve them in orthodox causal terms. Does this mean that such questions are improper?

On the rejectionist approach, the entire question of obtaining the (or *a*) reason for the existence of things is simply dismissed as illegitimate. Even to inquire into the existence of the entire universe is held to be somehow illegitimate. It is just a mistake to ask for a causal explanation of existence *per se;* the question should be abandoned as improper—as not representing a legitimate issue. We are assured that in the light of closer scrutiny the explanatory "problem" vanishes as meaningless.

Dismissal of the problem as illegitimate is generally based on the idea that the question at issue involves an illicit presupposition. It looks to answers of the form "Z is the (or *an*) explanation for the existence of things." Committed to this response-schema, the question has the thesis "There is a ground for the existence of things—existence-in-general is the sort of thing that has an explanation." And this presumption—we are told—might well be false. In principle its falsity could emerge in two ways:

1. on grounds of deep general principle inherent in the conceptual "logic" of the situation; or
2. on grounds of a concrete doctrine of substantive metaphysics or science that precludes the prospect of an answer—even as quantum theory precludes the prospect of an answer to "Why did that atom of Californium decay at that particular time?"

Let us begin by considering if the question of existence might be invalidated by considerations of the first sort and root in circumstances that lie deep in the conceptual nature of things. Consider the following discussion by C. G. Hempel:

> Why is there anything at all rather than nothing? . . . But what kind of an answer could be appropriate? What seems to be wanted is an explanatory account which does not assume the existence of something or other. But such an account, I would submit, is a logical impossibility. For generally, the question "Why is it the case that A?" is answered by "Because B is the case" . . . [*A*]*n answer to our riddle which made no assumptions about the existence of anything cannot possibly provide adequate grounds.* . . . The riddle has been constructed in a manner that makes an answer logically impossible. . . .[22]

But this plausible line of argumentation has shortcomings. The most serious of these is that it fails to distinguish appropriately between the *existence of things* on the one hand and the *obtaining of facts* on the other,[23] and supplementarily also between specifically substantival facts regarding existing *things,* and nonsubstantival facts regarding *states of affairs* that are not dependent on the operation of preexisting things.

We are confronted here with a principle of hypostatization to the effect that the reason for anything must ultimately always inhere in the operations of things. And at this point we come to a prejudice as deep-rooted as any in Western philosophy: the idea that things can only originate from things, that nothing can come from nothing (*ex nihilo nihil fit*) in the sense that no *thing* can emerge from a thingless condition.[24] Now, this somewhat ambiguous principle is perfectly unproblematic when construed as saying that if the existence of something real has a correct explanation at all, then this explanation must pivot on something that is really and truly so. Clearly, we cannot explain

one *fact* without involving other *facts* to do the explaining. But the principle becomes highly problematic when construed in the manner of the precept that "*things* must come from *things*," that *substances* must inevitably be invoked to explain the existence of *substances*. For we then become committed to the thesis that everything in nature has an efficient cause in some other natural thing that is its causal source, its reason for being.

This stance is implicit in Hempel's argument. And it is explicit in much of the philosophical tradition. Hume, for one, insists that there is no feasible way in which an existential conclusion can be obtained from nonexistential premisses.[25] And the principle is also supported by philosophers of a very different ilk on the other side of the channel—including Leibniz himself, who writes:

> [T]he sufficient reason [of contingent existence] . . . must be outside this series of contingent things, and *must reside in a substance which is the cause of this series* . . . .[26]

Such a view amounts to a thesis of genetic homogeneity which says (on analogy with the old but now rather obsolete principle that "life must come from life") that "things must come from things," or "stuff must come from stuff," or "substance must come from substance." What, after all, could be more plausible than the precept that only real (*existing*) causes can have real (*existing*) effects?

But despite its appeal, this principle has its problems. It presupposes that there must be a type-homogeneity between cause and effect on the lines of the ancient Greek principle that "like must come from like." This highly dubious principle of genetic homogeneity has taken hard knocks in the course of modern science. Matter can come from energy, and living organisms from complexes of inorganic molecules. If the principle fails with matter and life, need it hold for substance as such? The claim that it does so would need a very cogent defense. None has been forthcoming to date.

Is it indeed true that only *things* can engender things? Why need a ground of change always inhere in a *thing* rather than in a nonsubstantival "condition of things-in-general"? Must substance inevitably arise from *substance*? Even to state such a principle is in effect to challenge its credentials. For why must the explanation of facts rest in the operation of *things*? To be sure, fact-explanations must have inputs (*all* explanations must). Facts must root in facts. But why thing-existential ones? A highly problematic bit of metaphysics is involved here. Dogmas about explanatory homogeneity aside, there is no discernible reason why an existential fact cannot be grounded in nonexistential ones, and why the existence of substantival *things* cannot be explained on the basis of some nonsubstantival circumstance or principle whose operations can constrain existence in something of the way in which equations can constrain nonzero solutions. Once we give up the principle of genetic homogeneity and abandon the idea that existing things must originate in existing things, we remove the key prop of the idea that asking for an explanation of things in general is a logically inappropriate demand. The footing of the rejectionist approach is gravely undermined.

There are, of course, other routes to rejectionism. One of them turns on the doctrine of Kant's *Antinomy* that it is illegitimate to try to account for the phenomenal universe as a whole (the entire *Erscheinungswelt*). Explanation on this view is inherently partitive: phenomena can only be accounted for in terms of other phenomena, so that it is in principle improper to ask for an account of phenomena-as-a-whole. The very idea of an explanatory science of nature-as-a-whole is illegitimate. Yet this view is deeply problematic. To all intents and purposes, science strives to explain the age of the universe-as-a-whole, its structure, its volume, its laws, its composition, etc. Why not then its *existence* as well? The decree that explanatory discussion is by nature necessarily partial and incapable of dealing with the whole lacks plausibility. It seems a mere device for sidestepping embarrassingly difficult questions.

Rejectionism is not a particularly appealing course. Any alternative to rejectionism has the significant merit of retaining for rational inquiry and investigation a question that would otherwise be abandoned. The question of "the reason why" behind existence is surely important. If there is any possibility of getting an adequate answer—by hook or by crook—it seems reasonable that we would very much like to have it. There is nothing patently meaningless about this "riddle of existence." And it does not seem to rest in any obvious way on

any particularly problematic presupposition—apart from the epistemically optimistic yet methodologically inevitable idea that there are always reasons why things are as they are (the "principle of sufficient reason"). To dismiss the question as improper or illegitimate is fruitless. Try as we will to put the question away, it comes back to haunt us.[27]

8. THE NOMOLOGICAL APPROACH

Consider the line of reasoning set out in the antinomy of causation formulated in Table 2. Since the assertions (A) and (B) squarely contradict each other, it is clear that theses (1)–(4) constitute an inconsistent group of propositions. In consequence, one member of this quartet, at least, must be rejected. Let us survey the options for resolving this antinomy.

Table 2 An Inconsistent Quartet

(1) Everything—that is, literally everything—that exists in nature has a causal explanation. (The Principle of Causality.)
(2) Natural-existence-as-a-whole must itself be counted as a natural thing: the universe itself qualifies as a thing or substance of some sort. (The Principle of Totalization: The entire universe that consists of things (substances) is itself a thing (substance).)
(A) The universe has a causal explanation. (From (1) and (2).)
(3) Causal explanations of existential facts require existential inputs to afford the requisite causes. (The Principle of Genetic Homogeneity.)
(4) No existential inputs are available to explain the existence of natural-existence-as-a-whole, the totality of things within the world (= the universe). For any existent invoked by the explanation would constitute part of the explanatory problem, thus vitiating the explanation on grounds of circularity. (The Principle of Causal Comprehension: Anything that stands in causally explanatory connection with the universe is thereby, *ipso facto,* a part of it.)
(B) No (adequate) causal explanation can be given for the universe. (From (3) and (4).)

(1)-rejection. One could abandon the Principle of Causality. This would pave the way for accepting the universe ("natural existence as a whole") as something whose existence just is uncaused. One would accordingly take roughly the following line:

> There are things in the world because once upon a time there was an alpha-event that was the origination of a world-with-things-in-it. And this event *just happened;* it was *uncaused.* And it had to be so. For it makes no sense to suppose a cause of the initiation (the beginning-to-be) of things-as-a-whole, because causal explanations require existential inputs to operate as causes.

The obvious shortcoming of this position is inherent in its commitment to the questionable idea that causation necessarily requires *preexisting things* to act as causes.

(2)-rejection. One could abandon the Principle of Totalization and maintain that the assimilation of the entire universe itself to particular things must be abandoned. Everything-as-a-whole is seen as *sui generis* and thus not as a literal *thing* that, along with particular things, can be expected to conform to thing-oriented principles such as the Principle of Causality. Accordingly, we would exempt the universe itself from membership in the class of things that have cause.

The difficulty with this approach lies in the problem of establishing the grounds of the purported impropriety. We unhesitatingly view galaxies as individual things whose origin, duration, and nature need explanation—why not then the cosmos as a whole? This synoptic question is, admittedly, more challenging and inconvenient. But why should that make it illegitimate?

(3)-rejection. One could reject (3) as we have in fact already proposed to do. Yet in dismissing genetic homogeneity one would (and should) not abandon it altogether, but rather subject it to a distinction. One could then say that there are *two different kinds* of causal explanation, those that proceed in terms of the causal agency of (preexisting) *things*—substance causality or efficient causality—and those that proceed in terms of the causal operation of lawful *principles*—law causality or nomological causality. The former, *efficient* mode of causality is clearly not up to the job. For someone who asks for a natural explanation of the world

in the order of efficient causality deserves to be told that "his explanandum is so global a feature of the world that it leaves no room for causes distinct from itself."[28] But this consideration does not put nomological causality *hors de combat.* This latter is not thing-based; it would not require that the causal principles at issue be rooted in the operations of "things." In its preparedness to let laws rather than things account for existence, the nomological principle that this mode of causal explanation envisages would not have any specifically *substantival* embodiment whatever.

Such an approach abandons the deep-rooted prejudice that efficient causality is the only mode of causality there is—that causal agency must always be hypostacized as the operation of a causal agent. Accordingly, this approach envisages a mode of "causality" whose operation can dispense with existential inputs. It recognizes that the orthodox terms of ordinary efficient causality are not the only ones available for developing explanations of existence. Thus while still retaining the Principle of Causality as per (1), this approach substantially alters its import.

(4)-rejection. This course commits us to the idea that existential inputs *are* available to explain the existence of natural-existence-as-a-whole. Standardly, this involves the introduction of a nature-external, literally supernatural being (viz. God) to serve as the once-and-for-all existential ground in explaining the existence of all natural things. On this *theological* alternative, one would then retain (1) intact by means of the principle that God is *causa sui.*

We have already remarked on the methodological shortcomings of this approach. A reasonable division of labor calls for leaving God to attend to the proper concerns of theology and refraining from importing him into the project of scientific explanation. It is surely not his proper job to help us out of theoretical difficulties in science or philosophy.

Each of these solutions exacts a price. Each calls on us to abandon a thesis that has substantial surface plausibility and appeal. And each requires us to tell a fairly complicated and in some degree unpalatable story to explain and justify the abandonment at issue.

The point to be emphasized, however, is that (3)-rejection—the recourse, in existence explanation, to a principle of lawfulness that does not itself have an existential grounding in a *thing* of some sort—emerges as *comparatively* optimal. The price it exacts, though real, is more affordable than that of its competitors. The consequences it engenders are on balance the least problematic—which is, of course, far from saying that they are not problematic at all. In the last analysis, we take recourse to nomological causality—to the creative operation of lawful principles—*faute de mieux,* because this is the contextually optimal alternative; no better one is in sight. While there indeed are alternatives, they are even more deeply problematic.

Accordingly, the idea of a hylarchic principle that grounds the existence of things not in preexisting *things* but rather in a functional principle of some sort—a specifically *nonsubstantival* state of affairs—becomes something one can at least entertain. The justification for resorting to this explanatory strategy is hypothetical in structure: "If you are going to explain existence at all, then you can do no better than to explain it along the lines of such a hylarchic principle." The justificatory rationale is not one of alternative-elimination ("this or nothing"), but of comparative optimization ("this or nothing better").

If we persist in posing these global questions, some extraordinary mechanism *must* be invoked because we cannot hope to resolve them in terms of ordinary efficient causality. For causal explanations require existential inputs to act as causes. And this vitiates their utility in the present context. As David Lewis has rightly noted, the question "Why is there something rather than nothing?" in the specifically *causal* sense invites the dismissive response of telling the questioner "that his explanandum is so global a feature of the world that it leaves no room for causes distinct from itself, and hence it cannot have any causal history."[29]

We confront the inconsistent triad:

(1) Existence-as-a-whole admits of no explanation in the order of efficient causality.

(2) The question "Why is there something rather than nothing?" must be treated in the order of efficient causality. If a

satisfactory answer is to be found at all, it will have to be a causal one.

(3) The question is a sensible one that in principle admits of a satisfactory answer.

It is tempting to resolve this inconsistency by rejecting (3) and dismissing our problem with it. (We "answer" the question by learning that it was a mistake to ask it.) But this particular way of resolving the inconsistency is not inevitable. A resolution predicated on (2)-rejection can certainly be contemplated. And just this is the root idea of a nomological approach that proceeds outside the order of efficient causality and sees the existence of the world as *constrained by lawful principles rather than produced by efficient causes.*

Consideration of the shortcomings of all available alternatives renders an approach made in terms of a lawful principle worthy of close and sympathetic attention. It has substantial advantages over its rivals. In particular, the explanation of existence in terms of a nomological principle is in the fortunate position of averting a problematic hypostatization. It avoids the basic defect of all versions of the cosmological argument of supposing that the world's existence must root in a *substance*—the only ultimately suitable substance being one that is self-generative *(causa sui)*, so that the project of an adequate explanation of existence leads inexorably to God. Nomological explanation enables us to address the "riddle of existence" without theological involvements.

9. PROTOLAWS AND METAPHYSICAL POSSIBILITY

But how might the existence of things possibly be accounted for through a lawful principle which operates wholly outside the existential arena? How can an explanation ever move from possibility to actuality by relatively unproblematic means? To deal sensibly with this question, it is necessary to make a brief excursus into the theory of possibility.

To begin with, there is the idea of a *spectrum* of possibility—an inventory of all distinct possibilities which, as such, is suitably exclusive and exhaustive. The question "Why are *any* possibilities realized? Why don't *all* of those possibilities just stay *mere* possibilities without *any* being actual?" is thus to be answered by the observation that some state of affairs must obtain—that if these possibilities indeed are mutually exclusive and exhaustive, then one or another of them *must* obtain in the "logical" nature of things. The difficulty of course is to get from the obtaining of a state of affairs to the existence of *things.*

The realm of the possible can be represented as a circle divided, target fashion, into three concentric rings—as per Figure 1. Moving inwards we encounter first (outermost) the domain of *mere logical* (or "purely hypothetical") possibility, and last (centrally) the domain of a *physical* possibility that reflects the mode of operation of the actual things of this world. Intermediate between them lies the realm of *real* (or "metaphysical") possible.[30] Mere possibility is a matter of abstract, logical consistency—of purely theoretical prospects. Physical possibility is a matter of the operation of things actually present on the world's existential stage. Real possibility is something intermediate between these two. It is a matter of genuine or "realistic" possibility, not in the sense of psychological imaginability, but in that of a "metaphysical" possibility which must eventually be cashed out through some substantive theory of possibility.

A "compatibility theory" of possibility is perfectly workable here. But we need to think of it in a three-stage way. As usual, mere *logical* possibility is a matter of compatibility with the laws of logic, and *physical* possibility is a matter of compatibility with the laws of nature. But *real* possibility is something intermediate between these, a matter of compatibility with the protophysical laws of nature that set the preconditions for its realization and determine

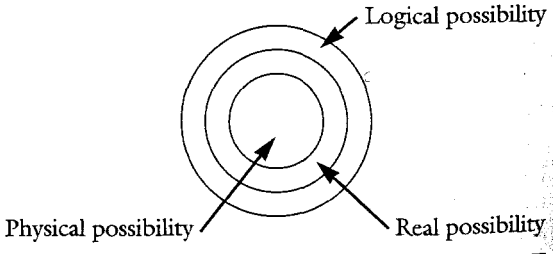

Figure 1 The Realm of Possibility

not *actualities* as such, but *realistic possibilities* for potential actualization.

Such protophysical laws will reflect the substance of our science in terms of its ability to implement the distinction between mere and real possibilities. They should be understood as laying down conditions of *real* possibility, ruling certain theoretical (logical) possibilities out as outside the realm of realizability. They "precede" nature and delineate among all the abstractly available possibilities certain ones as alone "real," ruling out the rest as unreal, remote, merely hypothetical or the like.

The root idea of this approach goes back to Leibniz, who—in distinguishing between "logical" and "metaphysical" necessity—first took explanatory recourse to a modality intermediate between physical and absolute ("logical") necessity. As he saw it, the arrangements of the world are neither absolutely nor logically necessary (à la Spinoza) nor wholly fortuitous (à la Epicurus) nor arbitrary (à la Descartes). Rather, they are necessary by a distinct mode of "metaphysical" necessity. Leibniz accordingly held that only by introducing a mode of necessity intermediate between absolute necessity and mere contingency can we cut the Gordian knot of reconciling the contingent with the necessary, seeing that that whose sufficient reason is *absolutely* necessary will itself be *absolutely necessary.*

The net effect of delineating such a range of "real possibility" is just this establishment of a new correlative mode of necessity. And this is the crux from the standpoint of our present discussion. For precisely this sort of necessity can furnish the answer to our question "Why does the world have such-and-such a feature—specifically, why is it nonempty?" For any feature that *all* the "really possible" worlds have is a feature that the existing world "has to" have—that it must necessarily have (in the "real" mode of necessity). The reasoning is simple and straightforward: the real world has a certain feature because it *has to,* since all "really" possible worlds do so.

Independently of, and, as it were, "prior" to the origination of existents there can be (and presumably is) a *nomically qualified framework of possibility* that sets the conditions, the "rules of the game" as it were, within which this origination of things comes to pass. The domain of real possibility constitutes a "receptacle" (in the manner of Plato's *Timaeus*)—a framework of possibility within which actuality must find its accommodation. But it is not, of course, one composed of physical or quasi-physical *dimensions* on the order of space and time, but one composed of lawful *principles*—a nomic framework of "laws of possibility." The salient idea is that such *protolaws* or "laws of possibility" can represent conditions FOR existents rather than conditions OF the operation of existing things and can thus exist independently of *things* of any sort.[31]

One can of course think of various laws of nature ("Copper conducts electricity") as entirely inherent in the make-up of the actual—that is, as merely representing the behavioral disposition of existing things. But the protolaws are not like that—they do not represent the behavioral dispositions of existents, but rather the *preconditions* to which something must conform if it is to become an existent at all. Such laws are not immanent in things but transcend their particular nature. They are "laws of nature" alright, but in the rather special way of being laws *for* nature—laws that set preconditions upon the realizability of possibilities. Such possibility-restrictive principles have an ontological footing that is independent of (because "prior" to) existing things. (If we are to explain the existence of things in terms of laws, we must of course refrain from thinking of laws as representing the dispositions of existing things.)

Accordingly, we can and should reject the thesis of genetic homogeneity with its insistence on the principle that: *All facts about the world's actualities must be grounded in existing things (or in their properties).* This thesis insists that every fact has a substantival embodiment—that facts must always root in the make-up of existents; that existence inevitably precedes essence. The nomological approach emphatically rejects this radical mode of metaphysical existentialism. It accounts for the real or actual (for "existence," that is), through a lawful principle which operates without being itself embodied in some existing thing or things. It denies that existence inevitably precedes essence. It is prepared to see some facts about the real world grounded in the nature of possibility rather than having to emerge from the operation of preexisting substances.

A protolaw which imposes conditions to which possibilities must answer to become *real* possibilities need not (and cannot always) root in the operations of real things. It can be thought of as *relational*—specifically, as invoking relations of requirement and exclusion between the subordinate elements of which possibilities are composed. Thus if there are three such elements, *A, B, C,* of which *A* requires *B,* and *C* precludes *B,* then certain "mere" possibilities would thereby become unreal, to wit those that have been starred in the following enumeration:

	A	B	C
*	+	+	+
	+	+	−
*	+	−	+
*	+	−	−
*	−	+	+
	−	+	−
	−	−	+
	−	−	−

The protolaws at issue can thus be thought of as principles of possibility-foreclosure. They represent constraints which simply exclude certain theoretically conceivable possibilities from the domain of *real* possibility. They are possibilities alright, but not "actualization-qualified" ones. They impute to the realm of *real* possibility a certain delimitative character—a structure that precludes some "theoretically available" possibilities from being accommodated within it.

Of course, every natural law rules out possibilities. ("Copper conducts electricity" means that we cannot have it both that something is made of copper and that it is a nonconductor.) The difference lies not in the common result, but in its variant rationale. A natural law is grounded in the make-up and dispositions of things; its electricity-conductivity roots in the make-up of copper. With protolaws the situation is different. That certain possibilities are "unreal"—that they are protolawfully unrealizable—lies not in the make-up of actual *things* but in "the nature of things." It is not a facet of actuality at all, but a feature of the realm of possibility itself.

These nomic principles that govern the realm of the possible need not have an *existential* footing—an ontological basis in some preexisting thing or collection of things. They need not—nay, must not—be hypostacized into features of things or into causal products of the operations of things. Our theory contemplates a mode of "being" independent of and prior to the existence of "things"—a nomic field which fixes the structure of possibility. This idea of a domain of "protolaws" rests on a firm refusal to locate the ground of the distinction between "mere" and "real" possibilities in the nature or the activities of things or existents of some sort. Such principles can and should be thought of as lacking a substantial basis—as conditioning possibilities without any foothold in the *modus operandi* of prior actualities.

Existence-explanation via a hylarchic principle of protolaw turns on a distinction between substantival explanations in terms of the operations of entities and process explanations in terms of primordial operational principles—principles that underlie rather than merely reflect the nature of the real. It is predicated on acknowledging that explanation in the case of existence-at-large cannot operate in the orthodox order of the efficient causation of preexisting things. In resorting to a hylarchic principle one can thus abandon altogether the hoary dogma that things can only come from things. A fundamental shift in explanatory methodology is at issue with this hylarchic approach—the shift to a nomological mode of explanation that operates in terms of laws which lack any and all "prior" embedding in an order of *things.* The fact of the world's nonemptiness is now accounted for as the consequence of a constraint by principles rather than as the product of the operation of causes.

This position does not, however, require us to reject the principle *ex nihilo nihil fit* totally and unqualifiedly. For one can distinguish between *nonexistence* and *nothingness.* The realm of mere possibility, as such, is a sphere of nonexistence in which no *thing* whatever exists. But it itself is not *nothing*—not totally devoid of character or structure. There is, after all, no reason why even the realm of mere possibility cannot have a structure of some sort. The fact that nothing *exists* within this realm does not preclude it from having a nature—indeed a nature such that a certain sort of possibility (and *only* a certain sort of possibility) is destined

to emerge from it as actualized. Such a nomic "receptacle" realm is not a matter of mere nothingness; it can and must have a character of some sort (as per the old precept that *nihil sunt nullae proprietates*). We need to adopt the idea that existence precedes essence. The domain of the possible represents a state of affairs in which no *things* exist, but in which various conditions can certainly obtain—conditions that can, in particular, endow this realm with a possibility-restrictive nature. Possibilities can, as such, be subject to various laws, including those which separate them into "real" and "merely hypothetical" and thus provide for the operations of a hylarchic principle.

Real possibility accordingly need not—and should not—be rooted in the machinations of things. We must not attribute it to the inner nature or outer impetus of *substances* of some sort, or see it as the fruit of the productive efficacy of some existent or other. We must avoid taking the stance that the structure of possibility must root in an actuality of some type, *that* there is some*thing* that exerts a determinative agency in consequence of which real possibility is as it is. We can reject the "existentialist" thesis that possibility must be grounded in an actuality of some sort—or else modify it by taking the stance that the realm of possibility itself constitutes a (self-subsistent) actuality of sorts.

A protolaw accordingly does not root in the operations of preexisting things. It should be conceived of as an autonomous principle conditioning the sphere of (real) possibility without being emplaced in an actuality of some sort. These protolaws are not reality-reflecting at all, but possibility-determinative. They reflect the fact that a *field of possibility* is prior to and grounds any *physical* field—that there must be "laws of possibility" before there can be the powers and dispositions that encapsulate the "laws of things," the "laws of nature" as ordinarily understood. The "possibility-space" that encompasses the realm of the possible is seen as having a particular character in view of which certain conditions must be met by any *real* possibility that it can accommodate—a character which is encapsulated in the protolaws. To put it *very* figuratively, these protolaws brood over the realm of the possible like the primal logos over the waters.

10. EXPLAINING EXISTENCE BY MEANS OF A HYLARCHIC PRINCIPLE

A hylarchic principle explains the nonemptiness of the world by exploiting the distinction between *mere* possibilities ("merely logical" or "wholly hypothetical and imaginary" possibilities) and *real* possibilities based in suitable nomic principles. It does this by underwriting the minor (second) premiss of the argument:

—Argument A—

(1) If every *really possible* (R-possible) world has a certain feature *F*, then *F* will necessarily (i.e., R-necessarily) obtain in the actual world.
(2) Every R-possible world is nonempty: any R-possible worlds will contain certain things.

Therefore, it must (in the R-correlative sense of "must") be the case that the actual world is nonempty—that there is something rather than nothing.

This line of reasoning provides a scheme by which various conditions of the real (specifically, here, its being nonempty) can be explained in terms of an extremely simple necessitarian format. The existing world has feature *F* because this feature is R-necessary in that every R-possible world has feature *F*. It implements this generic scheme in the specific mode. *Only such worlds as are nonempty—that contain something or other, and have some sort of membership—can qualify as real possibilities.* The salient idea is the principle that the necessary must be actual (*a necesse ad esse valet consequentia*). The reasoning proceeds via the standard idea of all ontological arguments since Anselm—that the shift from possibility to actuality can be effected with the aid of a suitable mode of necessity. But—with Leibniz—it rejects the idea that the necessity at issue must be absolute (logical) necessity.

The role of a hylarchic principle is now clear. As a protophysical law of a characteristically *preexistential* kind, it reduces the range of real possibility so as to exclude from it (*inter alia*) those worlds that are existentially empty. A hylarchic principle is simply a particular sort of possibility-restricting condition—a rather special one that narrows the range of eligible cases down to nonempty worlds. And so

the task of explaining why there is something rather than nothing can be discharged by relatively orthodox, direct and unproblematic means, since what is necessary must be actual. On such an approach it is not by chance that things exist in the world (that there is something rather than nothing) but by a natural (or, better, *proto*natural) necessity.

In accounting for a feature of the actual in this way, one can in principle explain a "change of phase" from the level of mere possibility to the level of actuality, maintaining that certain things *are* the case because they *must* be so—that their being otherwise lies outside the realm of (real) possibility. The "field of possibility" has a structure of such a sort that the existence of things of a certain sort is effectively necessitated. Such a field itself requires literally *nothing* for its "existence": like the God of scholastic demonstration, it is such that *nulla re indiget ad existendum.*

To be sure, the preceding course of reasoning does no more than carry the problem back one step further: For it now becomes incumbent upon us to secure premiss (2) of Argument A. How are we to do this—how can we establish that all "really" possible worlds will be nonempty?

This question can, in principle at least, be resolved along lines the following argumentation:

—Argument B—

(1) Possible worlds cannot represent *real* possibilities unless they have a certain feature *F.*
(2) No possible world which does not encompass existing things can have the feature *F.*

Therefore, it must be the case that every R-possible world is nonempty.

An argument of this format would enable us to establish our desired existential conclusion by reasoning that proceeds at the level of possibilities alone. It is in the implementation of this line of argumentation that the real task of a hylarchic principle lies.

The hylarchic approach to existence explanation thus has two components:

1. The existence of things in the world is accounted for by the fact that only real possibilities are also existential possibilities—that all of the really possible worlds are thing-populated worlds.
2. The nature of real possibility is accounted for in terms of a compatibility theory of possibility—by the circumstance that only those possibilities are "real" which are compatible with the world-determinative protolaws. (The only real possibilities are thus nomically authorized possibilities where it is the protolaws that do the authorization.)

The overall explanation of existence is thus fundamentally *nomological.* It pivots on the consideration that the protolaws require the existence of things—that they are in themselves such as to constrain an existential world.

But what manner of consideration could put flesh on the skeletal structure of this argument? The most plausible candidates for protolaws that could constrain the existence of things are the fundamental principles of physical nature—the basic cosmic equations (say the field equations of general relativity). For this sort of explanation to work, it would have to transpire that all of the possible (or all of the "available"—in some appropriate sense) solutions to these cosmic equations will accord to the key parameters values different from 0 (i.e., values which are existence-requiring). The only possible solutions to the fundamental equation which satisfy certain systemic requirements will have to be solutions that represent nonempty worlds.[32]

On such an approach, we would accordingly begin by looking to the fundamental field equations that delineate the operation of forces in nature: those which define the structures of the space-time continuum, say the basic laws of quantum mechanics and general relativity, and some fundamental structural principles of physical interaction. Principles of this sort characterizing the electromagnetic, gravitational, and metric fields provide the basic protolaws under whose aegis the drama of natural events will have to play itself out. And the existence of things would then be explained by noting that the fundamental equations themselves admit of no empty solutions—that any solution that satisfies them must incorporate the sorts of singularities we call "things."[33] The cosmic equations

would be such as to *constrain* existence in nature: they admit of no empty states and only allow non-vacuous solutions. (As it were, they represent functions that take a nonzero value for *every* value of the variables—even when those "input" parameters themselves are set at zero.)[34] For such an approach to work, it would have to transpire that the only ultimately viable solutions to those cosmic equations are existential solutions.[35]

This explanatory strategy casts those "fundamental field equations" in a rather special light. They are not seen as ordinary laws of nature that can be construed as describing the *modus operandi* of real things that are already present in the world, but rather as preeconditions for the real—as delimiting the sorts of possibilities that can be realized. We thus have an account of the following structure: The fundamental field equations, seen to function not merely as laws OF nature, but as laws FOR nature, as *protolaws* in present terminology—delineate the domain of real possibility. And the nature of this domain is then, in its turn, such as to constrain the existence of things.

Such an explanation of existence is no doubt somewhat unorthodox. But there is nothing about it that is inherently unviable or somehow "unscientific." And it does have the substantial merit of enabling us to resolve the riddle of existence, answering Leibniz's question in a way that is conceptually cogent and wholly consonant with science as we know it.

To be sure, one big problem remains: How is one to account for the protolaws themselves? (And so—just what are the ultimate grounds of real possibility?) This question obviously presents a large nettle which our overall explanatory program must eventually grasp if it is to do its job in a satisfactory way.

11. APPENDIX: A SPECULATIVE QUESTION

Could one use the present approach to answer not merely the question "why is there anything at all?" but the obviously more demanding question "why is the existing order of things as it is—why do *these particular sorts of things* exist?" Can one continue to use a hylarchic principle on shifting from the question "why does a world of such-and-such-a-character exist?" to "why does *this* particular world exist?" Could the present approach accommodate the move from a generic necessitarianism (to the effect that the world must contain things of a certain sort) to a specific necessitarianism that the world must contain certain particular sorts of things (or perhaps even sundry particulars as such)?

This could perhaps be done. But it would require much more elaborate machinery than anything introduced in the preceding discussion. For we would again have to eliminate various theoretically available possibilities as unreal, but would now have to do this on a very grand scale indeed, by eliminating *all but one* particular sort of possibility. The protolaws would function as a Laplacean demon of sorts that in some respects constrains the world to its present character.

Proceeding in this way, we would arrive, in the end, at a collapse of modality: a world of the general type of the actual world (or indeed even the actual world itself) would emerge as alone realistically possible and thus as realistically necessary. We would then need a much stronger sort of hylarchic principle—a system of protolaws of nature (construed preexistentially) which narrows the range of *real* possibility down to a single case. This enormously demanding eventuation would require a system of cosmic equations that admit of only a single all-determinative solution. A thoroughgoing R-necessitarianism would now be upon us—an ultra-Leibnizian world whose character (in general and perhaps even in specific) is determined not (à la Spinoza) by logical but (à la Leibniz) by metaphysical necessity. Of course, to say that this sort of necessitarian position is possible and (in a sense) theoretically "available" is far from saying that it is correct. The pervasive necessitarianism that it envisages presumably lies outside the sphere of the plausible.[36]

NOTES

1. The tract is published in Gerhardt, *Phil.*, Vol. VII, pp. 302–08. An English translation is given in Loemker, pp. 480–91. For a useful recent study see

Diogenes Alien, "Mechanical Explanations and the Ultimate Origin of the Universe According to Leibniz," *Studia Leibnitiana*, Sonderheft 11 (Wiesbaden, 1983).

2. To be sure, it could be maintained that there is a difference between an "empty world" and "no world at all," in that even an empty world can have a *nature* of sorts *qua* world—by way of characterizing hypotheticals like "If there were things here, they would have to have such-and-such a nature." (Cf. sect. 9 below)

3. One cannot, that is, move from $N(\exists w)E!w$ to $(\exists w)NE!w$.

4. Henri Bergson, *Creative Evolution*, tr. by A. Mitchell (New York, 1944 [Modern Library]), pp. 299–301.

5. Martin Heidegger, *Was ist Metaphysik?* (Frankfurt, 1967); 2 tr., *Introduction to Metaphysics* (New Haven, 1959), Chap. I. Also tr. by D. F. Krell in *Martin Heidegger: Basic Writings* (New York, 1977), pp. 95–112.

6. Robert Nozick, *Philosophical Explanations* (Cambridge, Mass.; 1981), p. 115. As Heidegger sees it, such a metaphysical concern roots in *Seinsvergessenheit* and is accordingly *etwas, das ueberwunden werden muss*, although it is counterproductive to *strive* to overcome metaphysical worries instead of waiting, *gelassen*, for *das Geschick des Seins* to come to our aid.

7. Ludwig Wittgenstein, *Tractatus Logico-Philosophicus* (London, 1922), sect. 6.44 (p. 186).

8. Norman Malcolm, *Ludwig Wittgenstein: A Memoir* (Oxford, 1958), p. 20.

9. Ludwig Wittgenstein, "A Lecture on Ethics," in J. H. Gill (ed.), *Philosophy Today*, No. 1 (New York and London, 1968), pp. 4–14. Wittgenstein here describes a particularly profound experience as having the character "that when I have it *I wonder at the existence of the world.*" Gill's anthology also contains notes by Friedrich Waismann on a conversation with Wittgenstein on the same subject. Cf. also G. E. M. Anscombe, *An Introduction to Wittgenstein's Tractatus* (London, 1955), p. 173.

10. *Op. cit.*, p. 10.

11. Anna-Teresa Tymeniecka, *Why Is There Something Rather than Nothing?* (Assen, 1966).

12. Myles Burnyeat in the *Times Literary Supplement*, October 15, 1982, p. 1136.

13. David Lewis, *Philosophical Papers* (New York and Oxford, 1983), p. 23.

14. Regarding the "experience of contingency," see Paul Tillich, *Systematic Theology*, Vol. I (Chicago, 1958), pp. 110–13,163–64, and 186.

15. Reprinted in John Hick (ed.), *Classical and Contemporary Readings in the Philosophy of Religion*, 2nd ed. (Englewood Cliffs, 1970), pp. 288–289. Cf. also Diogenes Allen in *Studia Leibnitiana, op. cit.*, p. 34.

16. David Hume, *Dialogues Concerning Natural Religion and Posthumous Essays*, ed. by R. Popkin (Indianapolis, 1980), Pt. IX, p. 55. Cf. also William Rowe, *The Cosmological Argument* (Princeton, 1975), p. 153.

17. A strange object springs into being as of t_0; it does not exist at t_0 but does exist at any subsequent time. Now for any time t after t_0 we can explain its existence at t by noting that it existed at the prior time t-minus-epsilon and (so we may suppose) is self-preserving. But would anyone suppose that this *explains* its existence at large? (I owe this example to Michael B. Burke.) Cf. also the discussions of Chapter III of William Rowe, *The Cosmological Argument* (Princeton, 1975).

18. John Locke, for example, claimed that the facts that something exists now and that nothing cannot produce a real thing (*ex nihilo nihil*) imply that "something must have existed for eternity" meaning that these must be an *eternal being*. (*An Essay Concerning Human Understanding*, Bk. II, ch. X.) Locke thus commits exactly this quantifier confusion of moving from the distributive "Everything has a causal ground" to the collective "There is a (single) causal ground for everything."

19. See the interesting discussion of cognate issues in Diogenes Allen, *Mechanical Explanations of the Ultimate Origin of the Universe According to Leibniz* (Wiesbaden, 1983; *Studia Leibnitiana*, Sonderheft 11.)

20. See William Lane Craig, *The Cosmological Argument from Plato to Leibniz* (London, 1980), and William Rowe, *The Cosmological Argument* (Princeton, 1975). Some relevant texts are anthologized in Donald R. Burrill (ed.), *The Cosmological Argument* (Garden City, 1967).

21. Immanuel Kant, *C.Pr.R.*, p. 138 (Akad.).

22. Carl G. Hempel, "'Science Unlimited," *The Annals of the Japan Association for Philosophy of Science*, vol. 14 (1973), pp. 187–202. (See p. 200.) Our italics.

23. Note too that the question of the existence of facts is a horse of a very different color from that of the existence of things. There being no *things* is undoubtedly a possible situation, there being no *facts* is not (since if the situation were realized, this would itself constitute a fact).

24. Aristotle taught that every change must emanate from a '"mover," i.e., a substance whose machinations provide the cause of change. This commitment to causal reification is at work in much of the history of Western thought. That its pervasiveness is manifest at virtually every juncture is clear from William Lane Craig's interesting study of *The Cosmological Argument from Plato to Leibniz* (London, 1980).

25. David Hume, *Dialogues Concerning Natural Religion* (ed. N. K. Smith; London, 1922), p. 189.

26. G. W. Leibniz, "Principles of Nature and of Grace," sect. 8, italics supplied. Compare St. Thomas:

> Of necessity, herefore, anything in process of change is being changed by something else. (S.T., IA 2,3).

The idea that only substances can produce changes goes back to Thomas' master, Aristotle. In Plato and the Presocratics, the causal efficacy of *principles* is recognized (e.g., the love and strife of Empedocles).

27. For criticisms of ways of avoiding the question "Why is there something rather than nothing?" see Chap. III of William Rowe, *The Cosmological Argument* (Princeton, 1975). Cf. also Donald R Burrill (ed.), *The Cosmological Argument* (Garden City, 1967), esp. "The Cosmological Argument" by Paul Edwards.

28. David Lewis, *Philosophical Papers,* Vol. I (New York and Oxford, 1983), p. 24.

29. ibid.

30. In principle there might be more refinement here, with some actuality-departing possibilities being relatively more proximate or remote than others, depending on how radical the departures from existential reality. This would lead to gradations of more or less "real" possibility, depending how close one comes to the "real life" *modus operandi* of actual things. We shall for the time being ignore this prospect and abstract from such complications.

31. It might be this sort of thing that is darkly suggested in A.-T. Tymeniecka's tenebrous hints:

> [T]he world-order . . . indicates the necessity of a superior, universal order of planning according to which it is constructed. . . . This order is . . . an architectonic plan considering universal possibilities of beings and the principles of their selection. . . . [This] architectonic plan . . . must include consideration of all the elements involved in the possible existence of the world order. . . . (*Op. cit.,* pp. 90–91.)

This passage seems to point towards the idea of a duly ordered framework of possibility that underlies the real and conditions its nature.

32. It should be noted that *empty* should here be understood in the logical or set-theoretical sense, not just in the somewhat specialized physical sense in which physicists speak of empty-world solutions to the field equations of General Relativity—meaning worlds devoid of ordinary matter and all forms of non-gravitational energy, but which can be (and in non-trivial cases are) filled with sourceless gravitational waves carrying gravitational energy. One would not regard such worlds as metaphysically empty.

33. The emergence of an "existential" state is thus entirely independent of the initial boundary-value conditions—for *any* way of fixing these parameters, an existential state emerges.

34. A (clearly superable) complexity enters at this point through the fact that vacuity may be reflected in parameter-values other than zero. For example, consider the trivial empty-world solution of the field equations of General Relativity, i.e. the Minkowski metric. In its standard form it consists of sixteen real-valued functions of the coordinates, twelve of which vanish everywhere, while the other four "take a nonzero value for *every* value of the variables" (namely, the constant values –1, 1, 1, 1, respectively).

35. Or perhaps, even should "empty solutions" exist, they might be highly unstable; the protolaws would then be such that, under their aegis, an existentially empty state of things is inherently liable to undergo a phase transition, having a natural inclination to slip over into an "occupied" condition.

36. One possibility along these general lines is afforded by the "anthropic principle" which, in effect, maintains that the world must be pretty much as it is because only so is life possible. See George Gale, "The Anthropic Principle," *Scientific American,* vol. 245 (December, 1981), pp. 154–171.

Reading Questions

1. Rescher maintains that considering the fact that there is something rather than nothing to be a brute fact, admitting of no further explanation is "a solution of last resort." Is it just wishful thinking to suppose that a more substantial explanation is possible?
2. Rescher argues that the existence of explanations for why each member of a group has a certain property does not thereby give us an explanation of why the group as a whole has a certain property. "And we are perfectly entitled to ask for such an explanation," he writes. Why should we expect that such global explanations exist for every domain? For example, there is an explanation for why each person in this year's freshman class chose this school. Should we further expect that some fact exists that explains why the entire freshman class as a group chose this school?