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**Worldmaker:
Nelson Goodman
1906-1998**

Nelson Goodman was one of the soaring figures of twentieth century philosophy. His work radically reshaped the subject, forcing fundamental reconceptions of philosophy's problems, ends, and means. It is commonly said that Goodman contributed to diverse fields, from philosophy of language to aesthetics, from philosophy of science to mereology. A more accurate claim would be that his works cut across these and other fields, revealing shared features and connecting links that more narrowly focused philosophers tend to overlook. That the author of *The Structure of Appearance* [SA] also wrote *Languages of Art* [LA] is not in the end surprising. It is plainly impossible to do justice to the breadth and depth of his contributions. Today I shall try simply to provide an overview, in hopes of inspiring some of you to look back at his works themselves.

No philosophical progress is made, Goodman believes, by arguments that advert to something we know not what. He therefore rejects intensional entities such as meanings, essences, propositions, and possibilities, deeming their criteria of identity irremediably obscure. He even repudiates sets, since

he regards as unintelligible the contention that infinitely many distinct entities (the sets) can be composed of the same basic elements (typically the null set). It might seem that such austerity would leave him bereft of resources. But Goodman combines his principled parsimony with an inventiveness and critical acuity that enable him to evade the need for such devices.

As graduate students, Goodman and Henry Leonard developed a version of mereology that they called the calculus of individuals [CI]. Elaborated in *The Structure of Appearance*, it forms the basis for Goodman's nominalism. Goodman takes the difference between mereology and set theory to lie in the sorts of constructions they permit. Set theory admits infinitely many distinct entities -- sets of sets of sets of sets . . . -- all composed of the same basic elements. Mereology holds that the same basic elements are parts of but a single whole. Goodman's nominalism consists in a refusal to recognize more than one entity comprised of exactly the same basic elements. This says nothing about the metaphysical constitution of the elements. Whether to countenance abstract or concrete, material or immaterial, mental or physical, scattered or only spatio-temporally continuous entities requires more than just nominalism to decide. A nominalist ontology *per se* is not then restricted to recognizing only the things we standardly construe as individuals. Any theory that restricts composition to mereological summing admits only individuals to its ontology.

Any entities countenanced by such a theory, no matter how scattered, weird or motley they may be, are individuals. Nominalism thus has the resources to recognize a vast and variegated range of individuals. Throughout his work, Goodman shows how appeal to unfamiliar, but metaphysically unobjectionable individuals often obviates the need for sets, properties, and other ontologically suspect entities.

In the late 1940s, Goodman, Quine, [2D] and White [ASUD] wrote a series of papers repudiating the analytic/synthetic distinction. Goodman's contribution, 'On Likeness of Meaning' [PP, 221-230], argues that no two terms are synonymous. Discussions of the analytic/synthetic distinction typically concern criteria for sameness of meaning. Goodman focuses on differences in meaning. If we can understand what makes some coextensive terms differ in meaning, we can understand what it would take for such differences not to obtain. Rather than invoke connotations, senses, or other ethereal pseudo-entities to explain such differences, Goodman urges that we consider a wider range of extensions. In particular, we should attend to what he calls *secondary extensions* -- the extensions of compounds containing the terms in question. Goodman contends that two terms are synonymous just in case they agree in primary extension and in all secondary extensions. Although the terms 'unicorn' and 'centaur' have the same (in this case, null) primary extension, because compounds such as 'unicorn picture' and 'centaur picture' differ in extension, the terms 'unicorn' and 'centaur' differ

in meaning. That these two terms differ in meaning accords with our intuitions. But, it turns out, even terms that seem synonymous differ in meaning according to Goodman's criterion. Although we might be initially inclined to construe the terms 'spine' and 'backbone' as synonyms, we can readily contrive a spine description that is not a backbone description. The phrase 'spine that is not a backbone' is such a description. And in general, ' p that is not a q ' is a p -description but not a q -description. Such an all-purpose device for generating differences in meaning might seem illegitimate. But even if we exclude its deliverances, pictures, descriptions, and the like that belong to a secondary extension of one but not both of a pair of coextensive terms are ubiquitous. This makes it unlikely that two terms will be synonymous. The vast majority of the coextensive terms that we might antecedently consider synonymous fail to satisfy Goodman's criterion.

One might wonder whether this result tells against synonymy or against the criterion. Although Goodman says little in support of his criterion, its justification is not far to seek. If two terms are synonymous, they are intersubstitutable in fiction as well as in fact. In that case nothing should count as a description (or picture) of the referent of the one that is not a description (or picture) of the referent of the other. So divergence in the classifications of descriptions, pictures, and the like is indicative of divergence in meaning.

Secondary extensions are not just a device for discrediting synonymy. They afford the resources for recognizing degrees and kinds of likeness of meaning. To do so, we need only limit the secondary extensions we attend to. Parallel compounds are obtained by appending exactly the same sequence of terms to each of several terms. If, within a restricted range, all parallel compounds of a pair of coextensive terms are coextensive, the meanings of the coextensive terms agree within that range. The terms then may be sufficiently similar in meaning to be intersubstitutable within that range, even if their meanings diverge elsewhere. If, for example, within medical discourse, all and only instances of the compound term 'spine representation' are instances of the term 'backbone representation', then the terms 'spine' and 'backbone' may be sufficiently similar in meaning to be intersubstitutable in purely medical contexts. If most of the parallel compounds are coextensive, or the most important parallel compounds are coextensive, again there are grounds for deeming terms sufficiently similar in meaning to justify substituting one for the other. In place of a rigid, context-indifferent criterion of synonymy then, Goodman provides a flexible, context-sensitive criterion of likeness of meaning.

The analytic/synthetic distinction is not unique. Other familiar dualisms -- essence/ accident, scheme/content, necessity/contingency, and the like -- are vulnerable to similar objections. All must be rejected, Goodman, Quine, and White believe, and philosophy must be reconstructed

without relying, even implicitly, on their support. Unlike Quine, Goodman spent little time thereafter arguing against the disputed notions. He simply jettisoned them and proceeded to do philosophy without them. His strategy amounts to a second front in the fight against the dualisms. Success in doing philosophy without them affords evidence that they are unnecessary. Since we ought not clutter our theories with unnecessary bells and whistles, evidence that they are unnecessary is evidence that their introduction is unwarranted. The evidence, needless to say, is less than conclusive. Goodman by no means solves, or even takes up, every problem the dualisms are standardly adduced to solve. Nor do his positions, approaches, or conclusions command universal assent. But the more progress that is made without recourse to the dualisms, the less reason we have to endorse them. Slowly, our default assumptions shift. Rather than continuing to take it for granted that philosophy can and should rely on the disputed notions, we come to recognize that appeal to them requires justification and begin to suspect that that justification may not be forthcoming.

The ostensible objective of *The Structure of Appearance* is to construct a phenomenalist system. Traditionally, phenomenism maintains that all knowledge of contingent matters derives from what is given in experience. If so, the goal of a phenomenalist construction is to provide the derivation. That is what Carnap attempts to do in the *Aufbau* [LAW]. Characteristically, Goodman changes the subject. Despite his admiration for the *Aufbau*, he

denies that we can make sense of the idea of an experiential given that is prior to and unaffected by conceptualization. The myth of the given, he believes, cannot survive the repudiation of the scheme/content distinction. He also denies that we can make sense of the idea that, independent of and prior to systematization, some things are and other things are not really primitive. He doubts that a phenomenalist system can underwrite physicalism, but does not consider this a defect of either phenomenism or physicalism. So rather than merely (*merely?*) providing the phenomenalist construction he promised, he needs to provide a theory that motivates, explains, and justifies the sort of construction he seeks to provide. Besides presenting a phenomenalist system, *The Structure of Appearance* develops and defends a theory of constructional systems.

Modern logic supplies powerful tools and techniques for the investigation of philosophical problems. But logic alone, being uninterpreted, cannot solve substantive problems. What is needed is an interpreted formal system that delineates logical relations in a domain. Plainly, not just any formally correct interpretation will do. If it is to advance or consolidate our understanding of a subject, the interpretation must duly respect antecedent convictions. Duly respecting convictions is not, Goodman maintains, the same as replicating them. Pretheoretical beliefs tend to be vague, inchoate, irreconcilable or otherwise theoretically intractable. By devising an interpreted formal system that derives them from or explicates them in

terms of a suitable base of primitives, we can bring them into logical contact with each other, eliminate inconsistencies, and disclose unanticipated logical and theoretical connections. Regimentation involves judicious correction, refinement, even rejection of presystematic convictions in the interests of consistency, coherence, simplicity, and theoretical tractability. Plainly if a system is supposed to correct, extend and deepen our understanding of a domain, the standard of acceptability cannot be coextensiveness of pretheoretical and theoretical terms. Instead, Goodman argues that in an acceptable system, the pretheoretical beliefs we care about should map onto truths of the system. This does not mean that we should privilege the beliefs we are fondest of. Rather, the beliefs that are to map onto truths of the system are the ones that, prior to systematization, we have the strongest epistemic commitment to. The mapping of other pretheoretical beliefs and of sentences we are agnostic about is a matter of indifference. Clearly more than one mapping will satisfy this standard. One might identify a geometrical point with the intersection of two intersecting lines. Another might identify it with the limit of a sequence of nested spheres. The two definitions are not equivalent. Each provides a geometrically acceptable definition of a point. Neither invalidates the other. Here lies the root of Goodman's relativism. Multiple, acceptable systems can be constructed to accommodate the same range of antecedent convictions. Relative to each acceptable system, the constitution of a point is determinate. But absolutely

and independently of the systems we construct, it is indeterminate.

A term in a constructional system is a primitive if it is treated as basic. The choice of primitives, Goodman maintains, is largely a practical matter. He says, '[T]he purpose of constructing a system is to interrelate its predicates. The same purpose is served by reducing to a minimum the basis required. Every definition at once both increases the coherence of the system and diminishes the number of predicates that need to be taken as primitive. . . . To economize and to systematize are one and the same' [SA, 47-48]. Other things being equal then, we want as austere a basis as we can get. But nothing follows about what sorts of entities should comprise the basis. Carnap's *elementarerlebnisse* are unrepeatable, concrete particulars out of which repeatable qualities are constructed. Goodman's qualia are nonconcrete, repeatable elements out of which particular experiential events are constructed. We might prefer one or the other on grounds of simplicity or convenience. (And these, Goodman believes, would be good reasons.) But it makes no sense to think that one is somehow more accurate to the character of experience itself than the other. 'Primitive' is a functional term that characterizes an item's role in a theory or constructional system. It is not a term that describes components of experience itself (whatever that might be). The primitives are not, and need not be, familiar facets of experience. Just as physics adduces quite unfamiliar entities to make sense of familiar physical interactions, a phenomenalist system adduces unfamiliar

entities to make sense of familiar experiences. In both cases, the idea is to get behind or beneath the familiar to discover underlying structure. Anything can be basic, on Goodman's view. But a good basis consists of elements that we consider sufficiently clear and unproblematic that they need no further analysis, sufficiently economical that they give rise to an integrated theory, and sufficiently useful that the theory yields the sorts of insights we seek.

Although *The Structure of Appearance* develops and displays the virtues of a phenomenalist system, it does not espouse phenomenism. It does not contend that its system either does or should underwrite or supplant physicalism. 'The interest of a system,' Goodman contends, 'does not depend on its all-inclusiveness any more than the interest of chemistry depends on whether it ever absorbs biology.' [SA, 138]. A constructional system is valuable to the extent that it discloses interesting and important aspects of a domain. It need not be comprehensive. Nor need it be monopolistic. As a pluralist, Goodman sees no reason to believe that there is only one structure of interest and importance to be found in a given domain, no reason to believe that there is exactly one underlying way things are.

Ways of Worldmaking provides a less formal treatment of many of the central themes of *The Structure of Appearance*. It argues that worlds and the items they contain are made rather than found. They are made by the construction of world versions -- symbol systems that supply structure. Any

two items are alike in some respects and different in others, so inspection alone cannot reveal whether two manifestations are of the same thing or two things are of the same kind. To decide that requires knowing what it takes to be the same thing or the same kind of thing. We need criteria of individuation and classification to distinguish differences that matter from differences that do not. Nature does not supply them. By devising category schemes or systems of classification, we decide where to draw the lines.

Lines can be drawn in different places, yielding divergent but equally viable world versions. One might construe the platypus as a mammal; another, as a bird; yet another, as an intermediate between a mammal and a bird. None of these discredits the others. Each comports with many of our relevant antecedent beliefs. Goodman concludes that relative to its own world version, each of these is right; relative to its rivals', each is wrong. But absolutely and independently of the versions we construct, none is right or wrong. The acceptability of conflicting world versions is not a temporary condition that will be remedied by further inquiry. Some currently acceptable versions will no doubt be ruled out by future findings. But those findings will support a multiplicity of new versions. Divergent systems are acceptable, not because evidence is inadequate, but because even the most demanding criteria of adequacy turn out to be multiply satisfiable. Our standards of acceptability are not selective enough to yield a unique result. Nor do we know how to make them so. We have every reason to believe that no matter

how high we set our standards, if any world version satisfies them, many will do so. The plurality of acceptable versions results from the existence of mutually irreducible conceptual schemes. Why don't we just take the schemes to provide different characterizations of the same facts? In that case, there are several divergent versions of the same world. This is hardly cause for alarm. The trouble is that we lack the resources to justify, or even make sense of the claim that all overlapping acceptable versions pertain to the same things. Without the scheme/content distinction, there is no way to distinguish the conceptual from the factual. There is, as Quine says, a double dependence on meaning and fact [2D]. But without the discredited dualisms, we lack a basis for saying that various versions conceptualize the same facts. Category schemes provide the criteria of identity for their objects. Since mutually irreducible schemes do not invoke equivalent criteria, they do not treat of the same things. A world is the totality of things that comprise it, so mutually irreducible schemes define distinct worlds. There are, Goodman concludes, many worlds if any.

But not every world-version is acceptable nor does every claim belong to some acceptable world-version. Goodman's relativism has rigorous restraints. Consistency, coherence, suitability for a purpose, accord with past practice and antecedent convictions are among the restraints that he recognizes. Fitting and working are the marks of an acceptable version. A world version must consist of components that fit together. The version

must fit reasonably well with our prior commitments about the subject at hand and must further our cognitive objectives. Such features as inconsistency, incoherence, arbitrariness, and indifference to practice, ends and precedents are indicative of unacceptable world versions.

Not all worldmaking is deliberate. *Ways of Worldmaking* discusses how, using only sparse cues, the visual system constructs the apparent motion it discerns. Consciously and unconsciously, Goodman maintains, we strictly and literally *make* the connections and distinctions that invest a world with order. In the end, the distinction between invention and discovery, between making and finding, is as spurious as the other dualisms Goodman discounts. Nor is worldmaking exclusively the province of science. Goodman argues forcefully that the arts as well as the sciences are makers of worlds.

This requires radical reconceptions of art and aesthetics. The arts function cognitively, Goodman maintains. It is the task of aesthetics to explain how. Aesthetics, as Goodman conceives it, is a branch of epistemology, for the aesthetic attitude is not one of passive contemplation of the sublime and the beautiful, but one of active intellectual engagement with symbols whose interpretation may be elusive. Goodman believes that works of art, like works of science, journalism, advertising, and everyday discourse, consist of symbols. To understand them requires understanding the language or symbol system they belong to. *Languages of Art* develops a

taxonomy of symbol systems and spells out the powers and limitations of systems with different syntactic and semantic structures. It thus constitutes a major contribution not only to the understanding of art, but to the understanding of languages and other symbol systems in all domains.

Goodman recognizes two basic modes of reference -- denotation and exemplification. Denotation is the familiar relation of a word to its object. A name denotes its bearer; a predicate denotes the members of its extension. Many philosophers leave it at that. But Goodman contends that many pictures and other non-verbal symbols also denote, for they stand to their objects in the same relations as names and predicates do to theirs. A portrait denotes its subject; a general picture, such as a picture of a warbler in a field guide, denotes each of the items it applies to. Fictive symbols lack denotations, since nothing in reality answers to them. There is no Santa Claus, so neither the name 'Santa Claus' nor the picture on the Christmas card denotes. The interpretation of such symbols, Goodman maintains, depends rather on what terms denote them. We understand them by recognizing that they instantiate terms such as 'Santa Claus representation', 'Father Christmas representation', and so on. It might seem that we need to know what such a symbol denotes before we know which symbols denote it; that, for example, we need to know that the picture on the card denotes Santa Claus in order to know that the term 'Santa Claus picture' denotes the card. Goodman denies this. Just as we recognize pictures as landscapes

without comparing them to the real estate (if any) that they depict, we recognize Santa Claus pictures without comparing them to their referents. We learn to classify pictures and descriptions directly, by learning to recognize the relevant features that they share with one another. We need not compare them to anything else.

Some symbols, for example abstract paintings, do not even purport to denote. They refer, Goodman says, via exemplification. In exemplification, a symbol points up some of its own features, and thereby both refers and affords epistemic access to them. A commercial paint sample exemplifies its color and sheen. An abstract expressionist painting exemplifies the viscosity of paint. Exemplification, being the relation between a sample and the features it is a sample of, is not peculiar to art and commerce. It is ubiquitous in science, in pedagogy, and elsewhere. An experiment exemplifies the features it tests for -- for example, the effect of temperature on electrical resistance. A sample problem in a text book exemplifies the problem solving strategies the students are expected to learn. Here too, Goodman's investigations into aesthetics illuminate a lot more than the arts.

Denotation and exemplification are not mutually exclusive. Seventeenth century Dutch still lifes depict opulent arrangements of flowers and fruit and exemplify ambivalence about worldly success. Picasso's portrait of Gertrude Stein denotes Stein and exemplifies monumentality. Symbols in the arts typically perform a variety of interanimating referential

functions.

Neither denotation nor exemplification need be literal. The term 'solidly grounded' denotes no theories literally. Nevertheless, we readily distinguish theories that are solidly grounded from theories that are not. Moreover, the statement that a theory is solidly grounded says something informative and important about it. Goodman's explanation is that the term 'solidly grounded' denotes some theories metaphorically. So to say of one of those theories that it is solidly grounded is to say something true. He takes a similar line with exemplification. A symbol can exemplify only features it has. Proofs, being inert, cannot literally exemplify power. But some proofs possess and exemplify power metaphorically. Gödel's proof is, and presents itself as, powerful. In so doing, it metaphorically exemplifies power. Metaphorical denotation is real denotation, and metaphorical exemplification is real exemplification.

The use of symbols effects connections both within and across domains. The members of any collection bear some similarity to one another. But not every similarity is worth noting. By contriving category schemes, we group together things whose resemblance matters, and supply labels to characterize what the members of those groups share. We thereby impose order on a realm. The labels that make up a category scheme -- be they verbal, iconic, pictorial, or diagrammatic -- literally denote the items they characterize, and render salient features that their denotata share.

Category schemes typically are not comprehensive. Color terms, for example, apply literally only to the items in the visual realm. Moreover, however well we construct our schemes, there will inevitably be interesting and fruitful similarities, both within and across domains, that they fail to capture. This is where metaphor comes in. A metaphor cuts across literal classifications, grouping together items that no literal label does. It thereby affords epistemic access to similarities and differences that literal terminology obscures. The term 'sibling rivalry', for example, applies metaphorically to a range of simultaneously competitive and congenial relationships outside the family circle. It enables us to see what is common to a variety of seemingly disparate relationships, and yields insight into tensions among students, colleagues, teammates and others who share a history. By likening these relationships to those to which the term literally applies, the metaphor creates a cognitive bridge that enables us to exploit our understanding of family dynamics to illuminate a broader range of human relationships.

Goodman neither seeks nor finds the essence of art. For a variety of reasons, he thinks there is none. He is skeptical of essences on metaphysical grounds. He recognizes that art is dynamic. It continually breaks new ground and fruitfully flouts established conventions and convictions about its limits. New works function in new ways, and draw our attention to hitherto unnoticed ways that old works functioned. Artistic advances fuel epistemic

advances. So, a sharp, stable criterion for aesthetic functioning is unlikely to be found. Some things -- found art, for example -- function as art in some contexts but not in others. But Goodman does not think that this means that the concept of art is vacuous or merely subjective. Rather than focusing on the essentialist question, 'What is art?', he advocates asking, 'When is art?', -- that is, under what circumstances does an item function as art? In attempting to answer it, he identifies five symptoms of the aesthetic: syntactic density, semantic density, relative repleteness, exemplification, and complex and indirect reference. Like symptoms of a disease, they are neither necessary nor sufficient. But they are indicative for, he says, they 'tend to focus attention on the symbol rather than, or at least along with, what it refers to. Where we can never determine precisely just which symbol of a system we have or whether we have the same one on a second occasion, where the referent is so elusive that properly fitting a symbol to it requires endless care, where more rather than fewer features of the symbol count, where the symbol is an instance of the properties it symbolizes and may perform many interrelated simple and complex referential functions, we cannot merely look through the symbol to what it refers to as we do in obeying traffic lights or reading scientific texts, but must attend constantly to the symbol itself as in seeing paintings or reading poetry.' [WW, 69] What we gain from attending constantly to the symbols themselves are new ways of seeing, hearing, and understanding not just the symbols, but other things as

well. 'After we spend an hour or so at one or another exhibition of abstract painting,' Goodman says, 'everything tends to square off into geometric patches or swirl in circles or weave into textural arabesques, to sharpen into black and white or vibrate with new color consonances and dissonances.' [WW, 105] The fruits of successful encounters with the arts are new world versions, new structures of appearance and of reality.

Fact, Fiction, and Forecast [FFF] demonstrates that reordering creates problems as well as opportunities for cognitive advancement. The fact that the members of every collection have some feature in common gives rise not only to insightful metaphors but also to the new riddle of induction. The job of induction is to project from a limited body of evidence to a wider class of cases. But every body of evidence belongs to a multitude of wildly divergent extensions. To which of them ought we project? The grue paradox affords a trenchant example of the difficulty. Let us define 'grue' as follows:

x is grue =_{df} x is examined before future time t and is found to be green or x is not so examined and is blue.

'Grue' is a well-formed predicate. Its extension is as determinate as the extensions of 'green' and 'blue'. It is syntactically and semantically unobjectionable. Nevertheless, it threatens to undermine induction. Time t being in the future, all emeralds in our evidence class are in fact grue. The evidence accords with both

All emeralds are green

and

All emeralds are grue.

But if any emeralds remain unexamined at t , the two generalizations are incompatible. We are not remotely inclined to infer that all emeralds are grue. We confidently expect future emeralds to be green, not blue -- hence, not grue. But what, if anything, justifies this expectation? What favors projecting 'green' rather than 'grue'?

Even before attempting to answer these questions, it is worth noting that the very framing of the problem undermines a seemingly obvious and widely accepted standard of inductive support: a generalization is confirmed just in case all the objects in its (ungerrymandered) evidence class conform to it. 'All emeralds are grue' satisfies that standard. So if the standard is acceptable, the evidence confirms 'All emeralds are grue'. There is no contradiction in this. But it is counterintuitive. What is worse, if we retain the standard and accept the consequences, induction loses its point. For in that case we have no reason to infer 'All emeralds are green' rather than 'All emeralds are grue' or 'All emeralds are gred', or any of the infinitely many alternatives that do not conflict with the evidence. Just by posing the paradox then, Goodman discloses a surprising feature of inductive validity. The validity of an inductive inference depends on the characterization as well as the constitution of the evidence class. It matters how the evidence is described.

The evidence should be described as green, not as grue. This is not in dispute. But the reason is far from clear. An easy and obvious explanation is that 'green' is to be favored because it is more primitive than 'grue'. This follows from the fact that 'grue' is defined in terms of 'green'. But whether a term is primitive or defined depends on where you start. With the help of the predicate 'bleen', Goodman brings this out.

x is bleen =_{df} x is examined before future time t and is found to be blue or x is not so examined and is green.

By taking 'grue' and 'bleen' as primitive, we can define 'green'.

x is green =_{df} x is examined before future time t and is found to be grue or x is not so examined and is bleen.

Primitiveness, as Goodman insisted in *The Structure of Appearance*, is not a theory-neutral characteristic of predicates. Neither 'green' nor 'grue' is intrinsically more primitive than the other.

A related objection is that 'grue' is positional. Induction is supposed to follow the laws of nature, and these are supposed to be independent of particular positions in space and time. Since a specific time t figures in its definition, 'grue' cannot occur in lawlike generalizations. It is therefore inappropriate for induction. Goodman's rebuttal is the same. 'Grue' requires reference to particular time t , if you start with 'green'. But 'green' requires reference to t , if you start with 'grue'. Positionality, like primitiveness, is theory-dependent. If positionality precludes lawlikeness, then whether a

generalization is lawlike too depends on where you start. The lawlikeness of a generalization then is an artifact of the structure of the theory that it belongs to.

The distinction between lawlike and accidental generalizations is linked to the distinction between natural and artificial kinds. There is a temptation then to defend the preference for 'green' by saying that it designates a more natural kind than 'grue' does. But without an acceptable standard of naturalness that does not presuppose the differences in projectibility that we're trying to explain, this claim is untenable. For we know neither what it means, nor how to tell whether one predicate is more natural than another.

The grue paradox arises because the regularities in the evidence are inadequate to decide between divergent projections. Goodman's solution involves appeal to additional regularities -- regularities in linguistic usage. 'Green' is projectible and 'grue' is not, Goodman maintains, because 'green' is far better entrenched than 'grue'. That is because 'green' and terms coextensive with 'green' have been projected far more often than 'grue' and terms coextensive with 'grue'. This regularity in usage does not, of course, show that 'green' cuts nature at the joints. Nor does it insure that the projection of 'green' will continue to be successful. We have no lien on the future. No solution to the grue paradox can get around that. Goodman's grounds for favoring entrenchment reconceive the problematic. Since we don't know what the future holds, the future gives us no reason to favor

either predicate over the other. The question is, how should we proceed given the state of ignorance in which we inevitably find ourselves? Goodman believes that validity favors entrenched predicates, not because we know they are more likely than their rivals to figure in true predictions, but because, being deeply enmeshed in our inductive practices, they enable us to make maximally good use of available cognitive resources. Goodman develops a general theory of entrenchment that shows that the demand for entrenchment does not preclude innovation. Novel predicates become projectible by fitting into working inductive systems or into replacements for systems that do not work. Goodman's solution to the new riddle of induction is pragmatic. The reason for favoring entrenched predicates lies not in their syntactic, semantic, or metaphysical priority, but in their utility.

Nelson Goodman's philosophy combines judicious skepticism about received wisdom, uncompromising rigor, and seemingly unbridled creativity in reconfiguring philosophical problems, resources, and objectives. The solutions he offers are not permanent resting places, but launch pads for further inquiry. The mark of a good answer, he thinks, is that it leads to good questions. In 1946, Goodman said this of Descartes, 'Descartes faced his world as a skeptic with a method -- in other words, as a courageous, humble and hopeful man. Perhaps our glance back at him may remind us that there can be no security in traditions that failed us; that by patient and systematic use of our best faculties we may advance, but that there is no black market

in truth; that the results of wishful and fearful thinking cannot survive encounter with conflicting facts; and -- finally -- that a belief that will not stand the strictest scrutiny of doubt and reason will not withstand the oratory of the next demagogue.' [PP, 48] Apart, perhaps, from the word 'humble', the same might be said of Nelson Goodman. His works altered the contours of philosophy in the twentieth century.

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