

# **Constructive Realism: Variations on a Theme by Nelson Goodman**

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Abstract: According to Nelson Goodman’s constructive nominalism, there is a plurality of internally consistent, equally privileged, well-made actual worlds constructed through the use of symbol systems he calls “true” or “right” world versions. Using evidence from an American Indian world version, I will argue for a constructive *realism* that understands Goodman’s world constructing processes—among them composition, decomposition, ordering, sorting and collecting—as kinds of mental acts that are antecedent to the actual worlds they construct.

## I: Goodman’s Constructivism

Nelson Goodman maintained that there is a plurality of internally consistent, equally privileged, well-made actual worlds constructed through the use of very special symbol systems—*right* or *ultimately acceptable* world versions. In other places I have argued that Goodman’s criteria for ultimate acceptability are culturally biased against any non-Western world version—especially an American Indian version (N-S 2012). I also offered a culturally sensitive interpretation of Goodman’s criteria for ultimate acceptability that an American Indian world version satisfies, and so should be numbered among the internally consistent, equally privileged, well-made actual worlds (N-S 2010). But that is not my present purpose. I intend to offer a realist variation of Goodman’s

constructive nominalism—one which, I think, preserves his original constructivist insights while rescuing his radical relativism—his “irrealism”—from the paradox of self-reference.

Goodman’s fundamental insight is that “facts are fabricated,” that the notion of a mind-independent world of facts is mistaken (1988, 91-107; 1984, 30-34). As an illustration, I’ve often used my backyard bird feeder, visited on one particular occasion by a trio of cardinals. In our everyday way of thinking about the world, the “facts” are that there were three cardinals around the feeder; the cardinal atop the feeder was red; there was one natural kind—the cardinal—exemplified by the birds around the feeder; three sticks of firewood were piled to its right; there were no persons around the feeder; it is the same feeder as the one I repaired last year; and, the feeder was not moving. These “facts” make *true* the corresponding statements about the red cardinals around my stationary feeder, and I *know* these things because my true beliefs are justified. Only quibblers, I think, would object.

So, the statement, “The feeder was not moving” is true. It is striking, then, that according to NASA astrophysicists, I, my feeder, and its avian guests were moving at 67,000 miles/hour, the speed at which the Earth races around the sun. One wonders, then, how two contradictory statements, “The bird feeder was not moving” and “The bird feeder was moving,” can be true in virtue of two competing facts. Goodman’s explanation is on the mark: Each of the statements is true relative to a different *frame of reference*—a version or description of the world. Under a geocentric frame of reference the feeder is not moving, and under a heliocentric frame of reference the feeder is moving (1988, 2). A “frame of reference”—*a world version*—is grounded in the categorization

and ordering of sense experiences employing linguistic symbols; that is, a version of the world is grounded in the fabrication of facts through the devices of a language. *There are no “bare facts” of the matter!*

The speciousness of the bare fact as an epistemological foundation is a well-known common theme in constructivist thought, for the pure content of sense experiences alone underdetermines how the world really is. Indeed, as Goodman argues, one cannot even describe what the pure given might be apart from the order or structure imposed by a description, for a description must be employed in the account (Goodman 1988, 6). Thus, the question whether my feeder was *really* moving or not is empty, for without a conceptualizing intellect utilizing a system of description, there was no fact.

The remarkable thing is that there are many possible versions of my backyard world that are consistent with my experiences, because the content of our sense experiences underdetermines how the world *really* is. Some of those alternative versions sound quite odd. For example, in a frame of reference wherein “red” is regarded as an intransitive verb like “moves,” then the statement “The cardinal atop the feeder redded” is true, while “The cardinal atop the feeder was red” is not. In a frame employing the predicate “bleen”—where a thing is bleen if it is either blue or green—it is true that “The cardinal atop the feeder was not bleen.” In Goodman’s preferred nominalist frame, it is true that “There were three individual cardinals at the feeder,” but no fourth entity, the abstract natural kind they exemplified.<sup>1</sup> “There was cardinal at the feeder” is true in a frame wherein “cardinal” is treated as a mass noun like “water.” Finally, in a Quinean inspired frame of reference wherein material objects come in temporal slices, it is false that “It was the same feeder I repaired last year.” These are some odd facts indeed, for

most contradict our habit of thinking and talking about the world, our preferred linguistically categorized and ordered frame of reference—*but not one of them is inconsistent with the content of our sense experiences!*

I argued elsewhere that some of these odd sounding “facts” are quite at home in American Indian world versions (2010). Many American Indian languages like Shawnee and Choctaw, lacking the verb “to be,” treat English adjectives like “red” as intransitive verbs like “moves.” (Wagar, pers. comm. See also Hester 2004, 264-5 and Cajete 2000, 26-7). So, a Shawnee speaker commenting on my backyard scene might say “meci skwaawa,” expressing about the cardinals the fact that “They redded.” As well, the Shawnee stem “skipaky-“ applies to a thing if it is either blue or green—or better said, if the thing *bleens* (Voegelin 1939, 314). And while “There were no persons around the feeder” is true in the western version, in the Native frame of reference the fact is that *there were three persons around the feeder* (N-S 2010, 77-94).

Since the content of our sense experiences underdetermines the way the world really is, there are many possible interpretations—world versions—of the events taking place in my backyard. In an English version, the cardinals were red; in a Shawnee version, they redded. But to say that “there are many possible interpretations” somewhat misrepresents Goodman’s view, for he famously argues for *ontological pluralism*, that there are many *actual* ontologically diverse, yet equally privileged constructed worlds. Ontological pluralism rests upon the premise that all of the characteristics of the world—the things we understand to be objects and kinds—are relative to a particular model, theory, or version. This is nicely illustrated by the multiple isomorphic set-theoretic reductions of the natural numbers. While the statement “The number 2 is  $\{\{\phi\}\}$ ” is true

in Zermelo's model, it is false in von Neumann's, in which it is true that "The number 2 is  $\{\phi, \{\phi\}\}$ ." The question, "What is the number 2 *really*?" makes no sense.

Now, Goodman discusses several world constructing processes—ways of organizing sense experiences—but he cautions that his considerations are neither comprehensive nor exhaustive. Indeed, his modest goal was to "suggest something of the variety of processes in constant use" (1978, 17). Importantly, while Goodman asserts that a "tighter systematization" of processes for constructing new worlds from old is possible, he denies that any such systematization will be "ultimate," "for there is no more a unique world of worlds than there is a unique world" (1978, 17). However, I will soon argue that a multiplicity of equally privileged constructed worlds does not imply a multiplicity of equally privileged world constructing processes; a relativity of worlds does not imply a relativity of ways of constructing them. In fact, I will maintain that there are *kinds* of world constructing activities—with kinds understood not as Goodman's "relevant classes in some world version or other" but as a realist does. But a little more needs to be done before that case can be made.

Three of the most common world making processes Goodman discusses are composition, decomposition, and weighting, all of which depend upon—and help to determine—how the world is organized into objects and kinds. Composition is a process of uniting in a new version of the world what were before apparently distinct objects or kinds, such as the uniting of the morning star and the evening star under the label "Venus," with the resulting identification of the two objects and the fabrication of the new fact: The morning star is the same thing as the evening star. Decomposition is an opposite process, the dissolution of objects into distinct parts or the partitioning of kinds

into sub-species (1978, 7), as exemplified by the sub-categorization of the everyday kind “squirrel” into the biological family sciuridae—and into its 5 subfamilies, 81 genera and hundreds of species.

The explanation of weighting, a third prominent process of world construction, is grounded in the observation that any two things have some property or feature in common, and so are members of a kind determined by that common feature in some world version or other (Goodman 1983, 44). Consider two entities that are seemingly different in every respect, say a performance of Beethoven’s Opus 80 “Choral Fantasy” and the number 42. And yet, they both have at least one thing in common, namely, I have chosen them to be considered, so they are members of the kind “things chosen to illustrate that any two things have something in common.” I anticipate the likely objection that kinds are determined by some essential feature exemplified by its members, but being presently chosen as an illustration is merely accidental. But why believe that? For present purposes and in this context there is nothing at all accidental about being chosen; indeed, it is the only feature—the essential feature—that matters. In short, what counts as an essential feature—and so, in turn, a kind of thing—is a function of our organization and categorization of objects and kinds in a particular world version.

But, of course, not all of the objects or kinds that can be constructed have a useful or familiar place in a particular world version; indeed, some kinds will be downright unwelcome, as is the case with the one determined by Goodman’s predicate “grue.” “Grue” applies to all things examined before time  $t$  just in case they are green but to other things just in case they are blue (1983, 72 – 83). Briefly, the well-known problem is that every observation of an emerald before time  $t$  confirms the general hypothesis that all

emeralds are green. But why doesn't each and every one of those observations likewise confirm the general hypothesis that all emeralds are grue? We clearly do not want to make predictions about grue things, as we do about things that are green; we do not believe that "grue" is projectible. The challenge, then, is to distinguish between hypotheses that are projectible—i.e., confirmed by evidence—and those that are not.<sup>2</sup>

Weighting as a world constructing process is Goodman's solution to the problem of distinguishing projectible from non-projectible predicates. Not all kinds are relevant in a particular world; green is relevant in our everyday world version, but grue is not. That is, the kind green is weighted more heavily than grue, and it is so because it has become better entrenched. Predicates and the kinds they determine become entrenched principally as a result of actual past projections. "Plainly 'green', as a veteran of earlier and many more projections than 'grue', has the more impressive biography. The predicate 'green', we may say, is much better entrenched than the predicate 'grue'" (1983, 94). Entrenchment also serves to minimize the relevance of some predicates and their corresponding kinds. "Green" is better entrenched than "grue," and the projections "all emeralds are green" and "all emeralds are grue" conflict in their predictions about unobserved emeralds after time  $t$  (1983, 96). In cases of such conflict, the entrenched predicate carries the day and is deemed more relevant.

Again, this brief consideration of three world constructing processes—composition, decomposition, and weighting—is incomplete; indeed, there are more ways of remaking new worlds from old Goodman discusses—ordering, deletion, and deformation among them—and I would add sorting and collecting to the list. But we need not tarry, for we have sufficiently illustrated his views about the speciousness of the

bare fact as an epistemological foundation and the construction of worlds through the use of constructive processes.

## II: Constructive Realism

My very first philosophy professor, Bernard McCormick, made this argument about views like radical relativism that still resonates: It cannot be the case that everything is relative, for the absoluteness of the claim is self-refuting. Either the claim “everything is relative” is itself relative, thus opening the door to absolutes, or “everything is relative” is itself an absolute, so the claim is false. Now, it is unclear to me how Goodman’s radical relativism can escape this sort of self-referential paradox, for his view is expressed in language, and so like every other statement, theory, model or version, its objects and kinds—and its facts—are fabricated by language. But the relevant kinds in Goodman’s constructivist theory include the very kinds of world constructing processes—among them composition, decomposition, weighting and ordering—used to make all world versions, including his own. So, if all relevant kinds are fabrications within a particular version, then Goodman cannot give a general account of “ways of worldmaking”! Metaphorically speaking, he can’t see beyond the bounds of his own particular version because he cannot give an account that applies to all versions.

Goodman argues for an ontological pluralism, that there is a multiplicity of actual, equally privileged world versions. However, world versions do not materialize out of thin air, for they are constructed using the materials from other world versions; over time, theories and models are refinements of or reactions against their predecessors. But in

another more important sense these symbol systems must arise from something else—something that is not a mere part of an antecedent world version. Statements, theories, models and the entire world versions that contain them are products of our acts of construction—our composings and decomposings, weightings and orderings, collectings and sortings among them. And, I maintain, there simply could not be the succession or multiplicity of world versions Goodman embraces without the various kinds of acts of construction—some pre-linguistic—that produce them. To deny this would be, by analogy, to deny that the acts of carpenters are necessary to transform the raw materials of boards and nails into a house. Houses are constructed from other materials, just as world versions are constructed from other world versions—but someone must engage in the acts of constructing.

Now, the acts of carpentry—hammering, sawing and so forth—are independent of any particular house. And just as many different wooden structures can be built using a single set of tools, the many equally privileged worlds are constructed using a common set of world constructing processes, like composings, sortings, weightings and orderings. A multiplicity of worlds does not imply a multiplicity of ways of constructing those worlds. Moreover, it seems to me that we cannot give a general theory of how a multiplicity of actual worlds is constructed—a theory that applies to all versions without the perils of self-reference—unless world constructing acts are understood as being members of kinds that are independent of any and all particular versions, and not just as relevant kinds of action in Goodman’s western world version. A rough, but yet helpful way to think about what I am proposing—a view I call constructive realism—is this: Whenever the nominalist Goodman talks about a kind of world version constructing

process—composition, decomposition, weighting, ordering, etc.—I understand them not as fabricated kinds—as mere extensions of a predicate weighted within Goodman’s particular version—but as genuine, realistically construed kinds of constructing processes that are logically and ontologically prior to and independent of the multiple actual world versions their exemplars produce.

I once argued for such a view that understood number as a property of kinds of human activity called collective kinds (N-S 1991). I have come to regard collecting as a world version constructing process on a par with Goodman’s other objectifying and categorizing processes. In fact, his account of how the world is organized into kinds is quite close to my account of collecting.

Consider again my backyard scene, focusing now on the meager woodpile next to the feeder. We have already seen how the statement “There are three sticks of wood” is the fabrication of a fact through the devices of a language. But let’s take a closer look at how we construct the fact. First, as Goodman teaches, we identify the sticks as individual objects—and not as temporal stick slices, stick mass, etc.—after which we collect them. Now, to say that I collect the sticks of firewood is to say that I represent or view the sticks as a collection. Collecting does not produce an independently existing physical entity—a collection—because such an odd physical entity would be perceptually indistinguishable from its uncollected components; a physical collection of sticks of firewood would be indistinguishable from the uncollected sticks (N-S 1991). Instead, a collection is a product of an organizing of sense experience, just as Goodman argues. When we collect we represent to ourselves that the objects collected are connected or associated, as when I earlier collected Beethoven’s “Choral Fantasy” and the number 42.

And just as the specification of a predicate plays a central role in the fabrication of kinds, so the specification of a predicate is a very useful way to collect. I use the predicate “grammatical mark on this page” to represent the individual grammatical marks on the page as a collection—with a cardinality. Likewise, “stick of wood to the right of the feeder” collects the individual objects, that is, I regard the objects as a collection that has the cardinality three. So, “There are three sticks of wood” is a fact about how I have organized the world.

Importantly, in viewing my backyard scene, a native Ojibwa speaker would organize the world in a different way—seeing a different fact—saying “niswi-aatig-misan”—roughly translated as “three-one-dimensional-rigid sticks of firewood,” with the count word “niswi-aatig” meaning “three-one-dimensional-rigid” and the stem “misan” meaning “sticks of firewood.” Notice that the morpheme “-aatig”—meaning “one-dimensional-rigid”—is incorporated into the structure of the count word itself. This is just one of a group of numerical suffixes that are used to classify important properties of objects used in traditional Ojibwa life. Other classifiers include “-aabik” as in “midaasw-aabik-asiniin” (ten-hard stones) and “-minag” as in “niizho-minag-miinan” (two-three-dimensional blueberries). The crucial point to observe is that Ojibwa speakers—and probably speakers of all Algonquin languages—organize the numerical world in a different way than we do. While our count word “two” applies to collections of stones or roots or bears, Ojibwa speakers employ three distinct count words with these collections, organizing the world in three distinct ways: “niizho-aabik-asiniin” means “two-hard stones,” “niizho-aabiig-miinan” means “two-one-dimensional-flexible roots,” and “niizh-makoog” means “two bears” (Denny 1986).

From these and like comparisons I argued elsewhere that indigenous numerical thought is genuinely different from that found in the western tradition (N-S 2004). For example, in Shawnee and Ojibwa languages the number words are particles most often functioning as adjectives modifying nouns referring to collections of objects—and not as nouns—suggesting a commitment to numerical properties but not to numbers as objects. Using Goodman’s terminology, we might say that the speakers of these languages construct genuinely different numerical versions of the world. And yet, however different Native numerical world versions are from their western counterparts, it remains the case that collecting acts—acts of viewing objects as collections, i.e., as entities with a cardinality—is the logically necessary antecedent to counting and to the rudimentary arithmetical facts about collecting and combining activities in each tradition. And if we are going to give a general theory of world version constructing processes that applies both to Western and non-Western traditions, then the action kind collecting must be something more than the mere extension of the predicate “collecting” in a particular Western philosophical account. Thus follows my view that we are not to understand the kinds of worldmaking processes Goodman so well describes—composing and decomposing, weighting and ordering, projecting and collecting—as a constructive nominalist would, but as a constructive realist does.

Now, the foregoing is a logical argument that kinds of world constructive acts must be independent of world versions to avoid the paradoxes of self-reference. But there is some empirical evidence for pre-linguistic constructive processes, at least in the case of collecting and counting activity. Based upon her work with preschool children—some just a few months old—Karen Wynn has proposed that human beings have the

innate ability to internally represent cardinalities and to recognize numerical orderings and relationships between small numbers. She draws this conclusion in part from studies with very young children, some as young as 5 months old. Wynn found that it takes a surprising length of time for children to learn that counting encodes the numerosity of count words—that the last count tag in a series actually corresponds to the cardinality of a mentally represented collection of objects. She further maintains that human beings initially represent number in a way functionally equivalent to an “accumulator.” As a count of items in a collection proceeds the accumulator functions like a mental “container,” collecting and storing a mental tag corresponding to each item counted. The accumulator fills up in equal increments—increasing in volume at each step—until the count is completed, at which time the entire fullness of the accumulator—not the final mental tag alone—represents the numerosity of the items counted. Because the volume of the accumulator at each step of the count represents number, the cardinal conception of number is inherently embodied in the structure of the representation. *But the cardinal conception of number is not inherently embodied in linguistic counting.* I would conclude that world constructive activities important to categorizing and organizing experience numerically are prior to and independent of any particular world version—whether counting in English or Shawnee, one must first identify, collect, and pair one-to-one.

### III. A Final Thought

I anticipate the obvious objection that I am giving an account of how some part of the world really is, but in describing it I am imposing an order, “for the talk imposes

structure, conceptualizes, ascribes properties” (Goodman 1978: 6). However, this is not just another version of the world on a par with other versions or descriptions—like the naïve realist’s or NASA’s versions of my backyard scene. Not unlike Kant’s project, I am giving a meta-theoretical account—a meta-version, if you will—of the kinds of constructive processes necessary to organize and structure any world whatsoever. Otherwise, nothing said here applies beyond the bounds of my particular version; and while I know how my house was constructed, how the one next door came to be is a real mystery.

#### Notes

<sup>1</sup>Of course, Goodman embraces a quite specific and nonstandard sense of “nominalism,” which is usually taken to reject abstract objects. Goodman’s nominalism “countenance[s] no classes but only individuals” (1984, 50-51), because “the nominalist denies that two different entities can be made up of the same entities” (1964, 200). In a given version, individual *a* may be acceptable, but { *a* } is not. So, it’s not the *abstract* natural kind to which Goodman objects; it’s the abstract *natural* kind—understood as a version independent class of individual cardinals that is objectionable.

<sup>2</sup>Notice, importantly, that the problem is not that there is something particularly odious about the predicate “grue,” for its relative “blite” is perfectly projectible. The predicate “blite” applies to all things examined before time *t* just in case they are white and to other things if they are observed to be either black or white. In this case, *t* just happens to be the exact moment on or about January 10, 1697, when Willem de

Vlamingh discovered a black swan on the Swan River in Western Australia (VOC Historical Society). Before time  $t$ , every observation of a white swan confirmed that all swans are white—but not, remarkably, that all swans are white!

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