Introduction

"Then if we cannot capture the good with one form, let us grasp it with three."
(Plato, *Philebus* 65a1-2)

The goal of this study is to answer to the question "What is goodness?" It is natural to associate this question with ethics. But goodness is not limited to the domain of ethics. Water and wine, a strategy for streamlining maintenance operations, a proof or disproof of the null hypothesis, and an epithalmium for the viscount's daughter may all be good and in non-ethical ways. Goodness is salient in ethics. So the study saliently serves ethics. But it serves other domains as well. And it offers a variety of services.

The inquiry is best understood as metaphysical, for two related reasons. As the examples above indicate, the entity under investigation is extremely general. We find goodness in potables, plans, proofs, and poems, among many, many other sorts of things. Second, the kind of being that the entity is, is obscure. Besides the description "good," is there a single thing that good drinks, strategies, arguments, and literature share? Is their goodness related in a more complex way? Is goodness in some cases unrelated to goodness in others? If so, why? And regardless of these relations, in any particular instance where it occurs, just what is that goodness? For these reasons I will speak of "What is goodness?" as a metaphysical question.

To a large extent the method of pursuing the metaphysical question will be linguistic. The basic proposal is that achieving the answer heavily depends on clarifying the meaning of the word "goodness." Consequently the study will be pervasively informed by and critically engaged with theories and contributions in the study of linguistic meaning and use, in other words in semantics and pragmatics.
Philosophers have done work of this kind, for example work on deontic modality. For instance compare the occurrences of "ought," one among several so-called modal auxiliary verbs, in the following two sentences:

You ought to treat him with respect.
The rain ought to be arriving soon.

Assume that in the first sentence "ought" is being used deontically; in the second sentence the use is epistemic. Reconsider both sentences after replacing "ought" with the weaker modal auxiliary "might." So the meaning that modal auxiliaries are used to convey appears to vary according to at least two parameters. This result derives from formal semantic theory originally developed in the seventies by linguist Angelika Kratzer.

G. E. Moore famously ushered philosophical work on goodness into the twentieth century with the lead questions of his *Principia Ethica*: "What, then, is good? How is good to be defined?" Much of that work came to turn on the century's governing metaethical debate: cognitivist versus non-cognitivist interpretations of ethical thought and language. For instance does the sentence "Pleasure is good" express a cognitive state, a state of belief or judgment? Does the sentence accordingly have truth-value? Is the sentence instead the expression of a non-cognitive state such as an attitude of approbation? And in that case is it not evaluable for truth or falsity?

Philosophers vigorously debated such questions and continue to do so. But since the rise of formal semantics in the seventies there has been little work on "good" that is well informed by and critically engaged with pertinent linguistic literature. Chapter two of Stephen Finlay's recent book *Confusion of Tongues* is exceptional in being a semantic analysis of "good" by a philosopher.¹ Robert Shanklin's 2011 dissertation *On "Good" and Good*, written partly under Finlay's guidance and critically engaged with some of his ideas, is another exception.² Both contributions have been valuable sources of information and inspiration, although I will suggest that each has important limitations.

Arguably the most linguistic theoretically well-grounded contribution to the meaning of "good" remains the one in Zoltán Gendler Szabó's 2001 paper "Adjectives in Context." Observe that this paper was published in a collection edited by linguists.³ For all its clarity and incisiveness however, Szabó's discussion overlooks a number of fundamental properties of "good" and is inconclusive at a crucial moment in the analysis.

With respect to "goodness" there has been no philosophical work that is well informed by and critically engaged with pertinent linguistic literature. In particular there has been no such work informed by the contributions pertaining

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¹ Oxford University Press, 2014.
² University of Southern California, Dissertation in Philosophy, 2011.
to the topic of deadjectival nominalization. Deadjectival nominalizations are nouns formed from adjectives, for example "wisdom" from "wise," "morbidity" from "morbid," and "goodness" from "good." In her recent book *Abstract Objects and the Semantics of Natural Language* Friederike Moltmann argues that although the meaning of a noun of the form "F-ness" depends on the meaning of the adjective "F," the relation between the semantics of the former and the latter is complicated. Moreover, and of great importance for metaphysics, the widespread assumption that a noun of the form "F-ness" refers to the property F-ness is false. "F-ness" is not, Moltmann argues, a property-referring expression. Likewise the predicate "is F" does not refer to a property.

The gap in the philosophical literature is curious. Formal semantics has reached a level of maturity including a level of technicality that impedes access by non-specialists. But technical linguistic contributions have informed other areas of contemporary philosophical research. Work on modality mentioned above is a case in point. Indexical or relativistic interpretations of philosophically important and contested terms such as "true," "know," and even "cause" as well as predicates of personal taste such as "fun" and "pleasant" are others.

For whatever reason philosophers have overlooked or underappreciated certain semantic properties of "good" and "goodness," properties that linguists have studied, in some cases intensively.

Beyond this introduction, the study divides into the following chapters:

Chapter Two: Ambiguity
Chapter Three: Gradability
Chapter Four: Multi-Dimensionality
Chapter Five: Context Sensitivity
Chapter Six: Nominalization
Chapter Seven: Conclusion.

The remainder of the introduction introduces the central topics and basic results of these chapters.

**Ambiguity**

The metaphysical question that governs this study "What is goodness?" presupposes a single answer. But this presupposition turns out to be false.

The meaning of "goodness" depends, albeit in a complicated way, on the meaning of "good." There is a single English word form "good." But this word form has multiple senses. In other words, "good" is lexically ambiguous. Lexical ambiguity is the property of an expression having two or more senses.

There are various kinds of lexical ambiguity. Relevant here is the distinction between homonymy and polysemy. Homonymy is the property of an
expression having multiple senses that are remote or wholly unrelated. An example is "bark" as in "dog's bark" and "tree's bark." Polysemy is the property of an expression having multiple closely related senses. "Healthy" in "healthy diet" and "healthy lungs" is an example. In the former case "healthy" means "causative or productive of health"; in the latter case it means "constitutive of health."

Since it turns on semantic proximity or distance, the dividing line between homonymy and polysemy is vague. Moreover there are no general, accepted criteria for determining the degree of semantic proximity or distance that constitutes polysemy or homonymy. Consequently the determination must be ad hoc. This does not preclude the determination from being justified and in particular theoretically corroborated. But it precludes broadly generalizing from the particular case.

I argue that "good" is three-ways ambiguous. More precisely I argue that two of the senses of "good" are related as polysemes and that a third sense stands in the relation of homonymy to the other two. I refer to the three senses of "good" as "evaluative," "quantitative," and "operational." Evaluative and operational "good" are the polysemes. I introduce examples of each sense of "good" at appropriate points in this introduction.

Throughout the study I retain the labels "quantitative" and "operational." But "evaluative" is only a provisional label and is replaced in chapter four by the term "purposive." Evaluative "good" is the most philosophically important sense of "good." The provisional label derives from a natural assumption that value is a constituent of its denotation.5 But in chapter four this assumption is called into question.

Meanwhile our governing question was "What is goodness?" Our proposed method was to inquire into the meaning of "goodness." The meaning of "goodness" depends on the meaning of "good." Since "good" is three-ways ambiguous, our governing question can now be seen to be three-ways ambiguous. In short there are three different answers to the question "What is goodness?"

Gradability

One of the basic semantic distinctions between evaluative and operational "good" is that only the former is gradable. To appreciate this point, consider the traditional grammatical distinction called "grades of comparison" that is applied to certain adjectives. For instance consider "tall," "taller," and "tallest." "Tall" is

5 Note that here and throughout I use the word "denotation" and its cognates such as "denote" to designate a relation between linguistic expressions and the world that is more inclusive than reference. For example "Everyone at Toby's party," which is a quantifier phrase, denotes all those individuals at Toby's party. Again depending on how we interpret adjectival nominalizations and whether or not they are referring expressions, the noun "F-ness" may denote a set of individuals or a property.
said to be the "positive" grade or degree of the adjective, "taller" the "comparative," and "tallest" the "superlative."

Evaluative "good" of course has its comparative and superlative forms. These derive from a different adjectival root "bet-," and in that respect the gradability of "good" is morphologically irregular. But adjectival gradability is not limited to comparative and superlative forms. More broadly gradable adjectives are those that admit modification by any so-called degree modifier. For instance consider "very good," "quite good," and "as good as." There are different kinds of gradable adjectives as well as different kinds of degree expressions. Certain kinds of gradable adjectives admit modification by certain kinds of degree expressions and not others. For example "completely" is acceptable with the adjective "full," but not with "good."

The reason we talk of "degree" modifiers is that degrees have played a central role in analyses of gradability since they were first introduced in the mid seventies. The basic idea is that for a gradable adjective \(a\), \(x \text{ is } a\) entails that \(x\) has some degree of a gradable property denoted by \(a\). For example the gradable property of height is part of the denotation of the gradable adjective "tall." Heights come in varying degrees. So if Paolo is tall, then Paolo has some degree of height; and if Paolo is taller than Isabella, then the degree of height Paolo has is greater than the degree of height Isabella has. By contrast since the adjective "even" (in the mathematical sense of "even") is not gradable, the sentence "the number two is even to some degree" is semantically unacceptable.

"Paolo is tall" entails that Paolo has some degree of height, but "Paolo is tall" does not mean that Paolo has some degree of height. Rather the meaning of "Paolo is tall" is closer to: the degree of Paolo's height is significant. "Significant" here is widely understood to mean that the degree of height Paolo has exceeds a so-called standard of comparison. A standard of comparison is in turn based on a so-called comparison class. The comparison class is the contextually variable set of entities with which the subject of the gradable adjective (in this case Paolo) is being compared. For example in one context "Paolo is tall" may convey that Paolo is tall for his age, in another context that he is tall for his siblings. In the former case the standard of comparison is based on the class of individuals who are Paolo's age. In the latter it is based on the class of individuals who are Paolo's siblings.

The quantity and quality of formal semantic literature on gradability is large and high. But to my knowledge the only philosophical contribution to the semantic analysis of "good" that both recognizes its gradability (at least the

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7 To be clear, here and throughout I speak of a gradable adjective \(a\) denoting a gradable property. But, as the next sentence makes explicit, I do not mean that the gradable property that \(a\) denotes wholly constitutes its denotation.
gradability of one of its senses) and engages some of the standard linguistic literature on the topic is Shanklin's.

In the ensuing analysis of evaluative "good" the linguistic literature on gradability plays a fundamental role. This in turn informs the analysis of the dejectival nominalization. But the literature on gradability also informs the analysis of operational "good" and its dejectival nominalization as well as the analysis of quantitative "good" and its dejectival nominalization. Quantitative "good" is also a gradable adjective, although it does not admit the same degree modifiers as evaluative "good." Operational "good" is not gradable, but its polysemous relation to evaluative "good" is clarified through the analysis of the gradability of evaluative "good." More precisely it is clarified through explication of the so-called dimension denoted by evaluative "good."

Multi-Dimensionality

In the semantic literature on gradability the term "dimension" is used to refer to the gradable property denoted by a gradable adjective. Consider again the example of "tall," which denotes the gradable property of height. Compare speed as the gradable property denoted by the gradable adjective "fast." In this context the terms "gradable property" and "dimension" are used interchangeably. So height and speed are the dimensions denoted by "tall" and "fast."

In analyzing evaluative and quantitative "good" as gradable adjectives then, we also inquire into the dimension denoted by each. Complicating this inquiry is the fact that some gradable adjectives do not denote a single dimension. Instead they are dimensionally variable or, as they are often called, "multi-dimensional." That is, they denote different dimensions in different contexts. For example "large" is a gradable adjective; something can be very large or larger than something else. But "large" is also multi-dimensional. Consider the phrase "large city." A city may be large in population or in territorial expanse. (I underscore that population size and territorial expanse are specifications of the dimension-type associated with "large," not specifications of the standard of comparison. For example one Italian city can be large-in-population or large-in-territorial-expanse compared to other Italian cities.)

Both quantitative and evaluative "good" are multi-dimensional. So in inquiring into the dimension denoted by quantitative and evaluative "good" we are more precisely inquiring into their multi-dimensionality. Insofar as we are concerned with multi-dimensionality, we need to distinguish and address two fundamental questions.

While a multi-dimensional gradable adjective denotes different dimensions in different contexts, the various dimensions must belong to a common type. Otherwise we would not be analyzing a single gradable adjective, but two or more polyseomes or even homonyms. Accordingly we can speak of the "dimension-type" denoted by a multi-dimensional gradable adjective. One question then is: What is the dimension-type that evaluative "good" denotes? Or
what is the dimension-type that quantitative "good" denotes? The other question is what explains the operation of multi-dimensionality? In other words, for a given multi-dimensional gradable adjective, how is a specific dimension determined on a given occasion of use? Chapter four addresses the first question. Chapter five addresses the second.

Quantitative "good" denotes the dimension-type of quantity and thereby warrants its name. Consider the uses of quantitative "good" in the following two sentences:

A good number of subscribers wrote in to complain about the editorial.  
It's a good distance from here to City Hall by foot.

Observe that "good" is not associated with positive value in either case.

In both sentences quantitative "good" modifies a quantity expression: "number" and "distance." The first instance of quantitative "good" might be glossed by "large," the second by "long." So quantitative "good" itself provides a quantitative description of the quantity expression it modifies. But it provides different kinds of quantitative descriptions depending on the context of use. In short the dimension-type associated with quantitative "good" is quantity, but there are various kinds of quantities, for example those associated with numerosity and distance.

As mentioned above, the word "evaluative" for evaluative "good" derives from the natural assumption that this sense of "good" denotes value. For instance consider the following sentences:

He is a good person.  
That is a good painting.

The first instance of "good" may denote moral value, while the second may denote aesthetic value. This sort of consideration encourages the view that value is the dimension-type denoted by evaluative "good." Shanklin also concludes that the dimension-type is value — although again without recognizing that evaluative "good" is one among several senses of "good."

But there are reasons to question this conclusion. First even if value were the dimension-type denoted by evaluative "good," this result would be explanatorily unsatisfying insofar as the nature of value is obscure and contested. Consequently we would like an elucidation or analysis of value or "value." Second there is semantic evidence that in some instances the dimension-type denoted by evaluative "good" is quality (in at least one sense of this term) rather than value.

Regarding the second point, note that "quality" itself is ambiguous. Compare the instances of "quality" in "primary versus secondary quality" and "the quality of the appliance." In the first instance "quality" is more or less equivalent to "property," "characteristic," or "attribute." In the second instance
"quality" is a specific type of property, characteristic, or attribute. It is the second sense of "quality" that may be denoted by so-called evaluative "good." For instance consider the following sentences:

Inga bought a good quality appliance.
The quality of Adam's performance was good.

Observe that in these cases substitution of "quality" with "value" yields a different meaning. In fact "The value of the performance was good" is quite odd. Among other things, this result encourages further reflection on the dimension-type denoted by so-called evaluative "good."

In the account of the meaning of "good" with which he concludes *Semantic Analysis* Paul Ziff makes the important observation that the following sort of sentences are difficult to interpret:

That atom is good.
That seven is good.

Generalizing, there appear to be limits on the domain of common nouns that normally and comfortably permit evaluative "good" modification or predication. Ziff suggests that the difficulty owes to the fact that there are no salient interests associated with atoms or the number seven to which the subject of the predicate answers. In short he suggests that "x is good" means "x answers to certain interests."

Ziff does not clarify the meaning of "interest" or "answering." In considering what he might or should have meant I pursue a related idea: evaluative "good" denotes purpose serving. For example if there were some purpose an atom or the number seven could serve, then a good atom or a good number seven would be one that served that purpose. In short I propose that the dimension-type denoted by so-called evaluative "good" is in fact purpose serving. Specifications of this dimension-type in turn are explained in terms of specifications of purpose. That is, there are various kinds of purpose and therefore various kinds of purpose serving. Accordingly value and quality (in the relevant sense) are explained as kinds of purpose serving. From this point in the study I refer to evaluative "good" as "purposive 'good'."

Purpose serving is gradable. An entity x may serve a purpose to a greater or lesser extent or degree. Consequently I build gradability into the account of purposive "good" in terms of purpose serving to some degree. Precisely, I propose that x is purposively "good" insofar as x serves a purpose to a significant degree. Likewise, for a type of quantity Q, a quantitatively "good" Q is one that has a significant degree of the relevant kind of quantity. For example in the sentence "A good number of subscribers wrote in to complain about the

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8 Cornell University, 1960, 200-47. Note Ziff too is treating evaluative "good" without recognizing the ambiguity of "good."
editorial," the number of subscribers must be significant; and the number is significant insofar as it exceeds a contextually determined standard of comparison.

The identification of the dimension-type denoted by purposive "good" in turn enables clarification of the relation between this sense of "good" and operational "good." Consider the instances of operational "good" in the following exchanges:

A: The coffee tastes funny? Is the milk good?
B: Yes, the milk is good. I'm using a new brand of coffee.

A: The lamp won't turn on. Is the bulb good?
B: Yes, the bulb is good. But the wiring in the switch is a bit frayed.

Recall that operational "good" is not a gradable adjective. For example in the preceding exchanges "very" modification of "good" in the responses is unacceptable.

Operational "good" is so-called because "good" here entails that the subjects, here the milk and the bulb, are operational. In other words, they are working. In still other words, they are performing or are able to perform their characteristic function, role, or purpose. Consequently both purposive and operational "good" are associated with purpose serving, albeit in different ways. One fundamental way is, again, that purposive "good" denotes gradable purpose serving, while operational "good" is non-gradable. But the fact that these two senses of "good" share the fundamental semantic property of denoting purpose serving supports the thesis that the relation between the senses is polysemy. In contrast the property of quantity is not essentially related to purpose serving; and this is a fundamental reason that the relation between quantitative "good," on the one hand, and operational and purposive "good," on the other, is homonymy.

**Context Sensitivity**

I turn now to the second fundamental question pertaining to multi-dimensional gradable adjectives, again: For a given multi-dimensional gradable adjective, how is a specific dimension determined on a given occasion of use? For convenience I'll first focus on purposive "good." The results of the discussion can then be straightforwardly applied to quantitative "good."

The specific dimension associated with purposive "good" is at least partly determined by the context in which the adjective occurs. I say "partly" so determined because it is also determined by the semantics of the adjective itself. I construe context broadly to include intra- and extra-sentential, linguistic and non-linguistic factors. For example in "He is a good person" versus "That is a good painting" the noun that "good" modifies typically plays a role in indicating
that the dimension is moral versus aesthetic. On the other hand, "He is a good person" may also convey that he is a good person to fix the computer problem, and this conveyance may owe to non-linguistic features of context.

Granted this, in pursuing our question regarding the operation of multi-dimensionality we are interested in the idea that the multi-dimensionality of purposive "good" owes to the context sensitivity of purposive "good." Consideration of this idea leads into the thickets of a vigorous debate concerning the scope, variety, and nature of context sensitive expressions. Multi-dimensionality has not been discussed within this broader debate. Theorists have focused on a range of other putative kinds of context sensitive expression and their properties, and I bring these discussions to bear on our question.

Szabó's analysis of "good" in "Adjectives in Context" illustrates one form of explanation. He maintains that the logical form of "good" contains a variable that functions as an indexical. Since the indexical does not appear in the surface syntax, it is said to be "hidden." Whether hidden or overt, an indexical requires a content assignment, and context contributes to that assignment.

Applying this explanation to our interpretation of purposive "good" as denoting the dimension-type of purpose serving, we may say that the logical form of the adjective contains a hidden purpose variable and that context specifies the purpose and so determines the dimension on a given occasion of use. Although Szabó does not recognize that "good" is ambiguous and that the sense of "good" that he in fact analyzes is gradable, his position is otherwise close to the one I have just explained, for he speaks of "good" as associated with roles and proposes that the logical form of "good" contains a hidden role variable.

One alternative to a hidden indexicalist explanation of the operation of multi-dimensionality maintains that, despite the surface syntax— which suggests that "good" is a one-place or unary predicate, needing only a subject to render a proposition— purposive "good" is in fact a polyadic predicate. The predicate does not, however, contain a hidden indexical. Consequently the literal meaning of a sentence such as "Janet is good" is non-propositional. Kent Bach, for example, calls such contents "propositional radicals." In contrast assertions of such sentences typically convey propositions. Such assertions then supply additional semantic constituents. For examples while we are watching Janet pruning trees I might say to you "Janet is good" and thereby assert that Janet is good at pruning trees.

Since the additional semantic constituents are not articulated in the logical form of the sentence itself, they are fittingly known as "unarticulated constituents." In short on this view an adjective such as purposive "good" is context sensitive because it is a polyadic predicate. It requires content for semantic completion. But if this content is not supplied explicitly, for example by a prepositional phrase such as "at pruning trees," it must be supplied

pragmatically. We can wed this view to our analysis as follows: purposive "good" is a polyadic predicate; in addition to a subject, it requires a purpose specification to render a proposition. One way to provide the purpose specification is to supply an "at"-prepositional phrase.

A third explanation of the operation of multi-dimensionality derives from Ingrid Lossius Falkum's relevance-theoretic analysis of polysemy. Within this analysis Falkum explicitly discusses the adjective "good," although she too does not recognize that she is analyzing one among several senses of "good" or that the sense of "good" she is analyzing is gradable.

Falkum's view is consistent with the unarticulated constituent theory in maintaining that "good" is a unary predicate containing no hidden indexicals. But the gist of her account is that "good" corresponds to a very general concept. From this very general concept, ad hoc conceptual narrowings are derived on particular occasions of use. Although Falkum advances her position in terms of the concept to which purposive "good" corresponds, we can recast her position in terms of the gradable property or dimension that "good" or the concept GOOD denotes. In that case purposive "good" denotes a very general dimension, and in particular contexts of use a pragmatic process of semantic narrowing typically occurs. This process involves the mental tokening of a so-called ad hoc concept, which is derived from the general concept. The ad hoc concept is standardly represented with an asterisk, viz. "GOOD*." So the content of GOOD* is a more specific dimension or property than that of GOOD. We can wed Falkum's account to our analysis as follows: purposive "good" denotes the dimension of purpose serving. But the corresponding concept PURPOSIVE GOOD admits ad hoc narrowings, and thereby the use of purposive "good" denotes more specific properties such as (gradably) serving this or that purpose.

Having canvassed these interpretations and examined their relations to broader positions and debates in the literature on context sensitivity, and having discussed the difficulties of those interpretations, I propose the following explanation of the operation of multi-dimensionality in general and of the multi-dimensionality of purposive "good" in particular. Since purposive "good" is a gradable adjective, it is not a unary predicate. "Serves a purpose to a significant degree" itself is ostensibly a ternary predicate. It is therefore worth bearing in mind that "serves a purpose" or "serves a purpose to a significant degree" corresponds to the semantics but clearly not to the syntax of "good."

I maintain that sentences of the form "x is (purposively) good" express propositions. "That thing is (purposively) good" expresses the proposition that the demonstratum, the referent of "that thing," serves a purpose to a significant degree. Consequently I reject the view that "x is (purposively) good" requires an unarticulated constituent to express a proposition. The logical form of purposive "good" does contain a variable, but only a degree variable. Again "x is

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(purposively) good" means that $x$ serves a purpose to a significant degree. *Pace* Szabó I reject the view that the logical form contains other hidden variables.

Akin to Falkum's position, I maintain that the multi-dimensionality of purposive "good" owes to the fact that this adjective denotes a very general dimension, what I have called a "dimension-type." More precisely purpose is a very general property. Contrast this with height. Height does not admit specifications of kind. But contrast height in turn with quantity. As we saw in discussing quantitative "good," quantity may be specified, for example, in terms of numerosity or in terms of spatial extension, among other ways. Furthermore each of these specifications may admit further specification, for example spatial extension in terms of length, width, or depth.

Granted this, is such specification a function of ad hoc conceptualization? In part that depends on how ad hoc conceptualization is understood. Purposive "good" admits many forms of modification, for example adverbial ("morally good," "aesthetically good") and prepositional ("good at pruning trees," "good for stripping paint"). Such modification can specify the purpose. Purposive "good" can also function attributively ("good painting," "good vacuum cleaner"); and as we suggested above the modified nominal expression typically does contribute to the specification of the purpose. To be sure most specifications remain general to some degree. For example there are good bakers and good pastry chefs. But there are exceptions. Consider demonstrative specification in a prepositional phrase such as "good for this purpose." Still given the general point, why think that in instances of the unmodified use of purposive "good" an ad hoc and relatively specific concept PURPOSIVE GOOD* is derived from the general concept PURPOSES GOOD? Why not think that the speaker combines PURPOSES GOOD with other conventional concepts?

This explanation for the operation of the multi-dimensionality of purposive "good" can be straightforwardly applied to quantitative "good." Like purposive "good," the dimension that quantitative "good" or the concept QUANTITATIVE GOOD denotes is very general. So the operation of the multi-dimensionality of quantitative "good" is a consists in specification. Again such specification need not involve ad hoc conceptual narrowings. It may simply require conceptual combination.

**Nominalization**

So much for an introduction to the meanings and uses of purposive, operational, and quantitative "good." I turn from the adjectives to the dejectival nominalizations. Here I draw on Moltmann's recent work mentioned above.12 The bearing of this work on the question of the semantics of "goodness" can conveniently be boiled down to the thesis that dejectival

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12 Moltmann (2013).
nominalizations plurally refer to modalized tropes. Let's consider the ideas of modalized tropes and plural reference in turn.

Philosophers standardly treat deadjectival nominalizations (for example "goodness," "wisdom," "morbidity") and what Moltmann calls "explicit property referring terms" ("the property of goodness," "the property of wisdom," "the property of morbidity") as semantically on par. In particular they standardly treat deadjectival nominalizations as property-referring terms, that is, as terms that refer to properties. Moltmann rejects this view. She argues that deadjectival nominalizations share a range of semantic properties, which she calls "kind term behavior," with other so-called kind terms including un-derived mass nouns (for example "water," "snow") and plural count nouns ("apples," "children"). Accordingly she argues that whereas property-referring terms and other explicitly kind-referring terms ("the species homo sapiens," "the kind hydrogen," "the class of unwed Catholic mothers") refer to abstract objects, kind terms such as deadjectival nominalizations, un-derived mass nouns, and plural count nouns do not.

Instead deadjectival nominalizations in particular as well as the adjectives from which they derive involve reference to tropes. "Trope" is a term of metaphysical art. It refers to a property instance. For example contrast the property yellow with an instance of yellow, say, the instance of yellow in the cap of the highlighter pen presently on my desk. Whereas properties are abstract entities, not located in space or time, tropes such as this one of yellow are to some extent concrete, at least insofar as their bearers are. For example the highlighter cap has a spatial location; so the trope of yellow of the cap is located where the cap is.

Historically trope theory has been advanced as an alternative to realism with respect to properties. That is, trope theorists have maintained that tropes exist, but properties do not. But in principle one may admit both tropes and properties; and presumably anyone who maintains that properties exist also maintains that many properties are instantiated.

Semantically speaking, Moltmann analyzes adjectives in terms of tropes. For example "Toby is sleepy" is analyzed as relating a trope of sleepiness to the individual that bears it, here Toby. With respect to deadjectival nominalizations Moltmann argues that these expressions refer to modalized tropes. Modalized tropes are sets of possible (which includes actual) tropes. For example "sleepiness" refers to the set of all possible tropes of sleepiness. More precisely still deadjectival nominalizations plurally refer to modalized tropes.

Contrast the claim that deadjectival nominalizations plurally refer to modalized tropes with the claim that deadjectival nominalizations refer to pluralities consisting of modalized tropes. In explaining this contrast between so-called plural reference and reference to a plurality I will conveniently first use definite plural count noun-phrases. A definite plural count noun-phrase is a phrase composed of the definite article modified by a count noun that is plural,
for example "the stones," "the children," "the repercussions." Consider the following sentence:

The stones weigh 10 lbs.

This sentence admits two interpretations. On one interpretation each stone weighs 10 lbs. On the other the plurality or collection of stones weighs 10 lbs. The former interpretation involves plural reference: the predicate simultaneously applies to each member of the plurality. The latter interpretation involves reference to a plurality: the predicate applies to the plurality as a whole, not to each member. Compare the following sentence:

The children are hungry.

The idea that the plurality of children is hungry is absurd. So here only the plural reference interpretation is acceptable.

Grounds for adjudicating between the plural reference and reference to a plurality interpretations of definite plural noun-phrases are complicated and subtle. But the upshot with respect to the plurality interpretations of definite plural noun-phrases supports the thesis that the plurality interpretations of definite plural noun-phrases involve the predicate of the noun phrase applying to the whole set of objects denoted by the noun phrase, not to each member of the set of objects denoted. And so we arrive at the conclusion that a definite plural noun phrase plurally refers to a set of modalized tropes.

Application of this thesis to "goodness" involves several further steps. Since "good" is three-ways ambiguous, we need to distinguish between purposive, quantitative, and operational "goodness." To a first approximation each of the three nominalizations plurally refers to modalized tropes, albeit tropes of distinct kinds. But the semantics of purposive and quantitative "goodness" are complicated by the fact that purposive and quantitative "good" are gradable and multi-dimensional adjectives.

Moltmann herself does not incorporate multi-dimensionality into her theory of deadjectival nominalization, but she does discuss gradable adjectives and deadjectival nominalizations. Her discussion involves a fundamental criticism of analyses of gradable adjectives that employ degrees: Moltmann argues for the replacement of degrees with tropes. To explain this proposal I return to the example of Paolo and his height. We suggested that "Paolo is tall" is to be interpreted to mean that Paolo has a significant degree of height. Here Moltmann argues that in speaking of a degree, such as the degree of height Paolo has, we should understand this as a quantitative trope. Observe that this quantitative trope depends on a trope of bodily extension, in this case the extension from the soles of Paolo's feet to the crown of his head. Contrast this with a more abstract quantity such as that denoted by the expression "the
property of being six feet" or "the number six." For example compare the following sentences:

Ronan added the number of rooms and the number of tenants.  
Ronan added six and six.

The number of rooms and the number of tenants may each be six, but in the first sentence the definite descriptions denote quantitative tropes, that is, entities that ontologically depend on particular sets of individual rooms and tenants respectively.

Assume then a trope-based analysis of gradable adjectives. Moltmann argues that a gradable adjectival nominalization plurally refers to relational tropes and more precisely to what she calls "quasi-relational tropes." To concretize and illustrate this idea I'll initially focus on "tallness." For example consider the denotation of "Paolo's tallness" in a context where the standard of comparison is derived from the comparison class consisting of the members of Paolo's cross-country running team. Quasi-relational tropes are composed of two sorts of entities. One is a concrete quantitative trope. In the case of Paolo's tallness, the concrete quantitative trope is Paolo's height at a given world-time pair. (The qualification "at a given world-time pair" simply owes to the fact that Paolo's height may vary over time). Let's call the concrete quantitative trope the "base" trope.

Observe that "Paolo's height" and "Paolo's tallness" have different meanings. In addition to the base trope, that is, the concrete quantitative trope of height that Paolo bears at a particular world-time pair, the denotation of "Paolo's tallness" requires that this base trope be related to the contextually given standard of comparison. The contextually given standard of comparison is a quantitative trope of the same type as the quantitative trope that is Paolo's height. It is a trope of height (not, for instance, of weight or speed). However the quantitative trope of the standard of comparison is abstract relative to the concreteness of the quantitative trope of Paolo's height, the base trope. To see why, assume that the standard of comparison is determined by the average function. That is, in the present case the standard of comparison is the average height of the members of Paolo's cross-country running team. So that height is abstract insofar as it derives from the average function. But it is also abstract insofar as it needn't be instantiated by any member of the team. (Compare the fact that no American family has 2.54 children.) So none of the members of Paolo's running team must bear the quantitative trope that is the standard of comparison. Let's call this abstract quantitative trope the "relatum" of the base trope.

It is because the relatum trope is abstract that Moltmann refers to the relation between the base and relatum trope as "quasi"-relational rather than simply "relational." "Quasi-relational" here precisely denotes a relation obtaining between a concrete and an abstract entity. Consequently the quasi-relational
trope that is the referent of "Paolo's tallness" is the concrete base trope standing in the relation of exceeding the abstract relatum trope.

I now apply this result to the study's lead question: What is goodness? Once again, we know that the question is three-ways ambiguous. We therefore recast it to ask the following three questions: What is purposive goodness? What is quantitative goodness? And what is operational goodness? Given the plural reference theory, we must interpret each of these questions as requesting an account of what it is to possess a trope of purposive, quantitative, and operational goodness. To appreciate why this is so, compare the questions "What are apples?" and "What is water?" The former question is evidently requesting an account of what an apple, any apple, is. It is requesting an account of what it is to be an apple. Likewise the latter question is requesting an account of what it is to be water. The answer to the question "What is purposive goodness?" then is a quasi-relational trope of a specific kind of purpose serving to a significant extent. Likewise the answer to the question "What is quantitative goodness?" is a quasi-relational trope of a specific kind of quantity of a significant extent. Finally the answer to the question "What is operational goodness?" is a trope of non-gradable purpose serving.

In light of these answers it should be evident that the lead question we have been pursuing in this study is a metaphysical one.

Cui Bono?

In some respects the study is ambassadorial and translational. The gap between the state of the linguistic literature on the topics engaged here and the availability, let alone familiarity of the ideas within the general philosophical public is often wide. The study is accordingly intended to benefit philosophers of all stripes. It is not exactly intended for linguists — although I welcome their interests, and perhaps they will be curious about some of the peculiar properties of "good."

Because philosophers are my target audience I have been reluctant to employ the formalities that are conventional in the contemporary linguistic literature. Such offerings would likely not well serve to make friends and influence people. Some run-of-the-mill examples should illustrate the point:

1. $[A_{\text{nom-pos}}]_{c,w,i} = \{<t,x> | \exists t'(B(x,t') \& t' \in c(A)(w,i) \& t = f(t',\lambda y[y \geq A_{\text{Std}}(c(A),c)],w,i)\}$
2. $[A(P)]_{AP} = \lambda x.\exists P[P \in \text{Dist}(\text{Cons},Up(\text{Avg}(P'),[A_A]))] \& P(x)$
3. $[\text{pos}]_c = \lambda C \in D_{x,t}.\lambda f \in D_{x,r}.\lambda x \in D_x. f(x) \geq \text{norm}_c(f,C)$

Note that I use the term "extent" rather than "degree" in conformity with Moltmann's rejection of degree-based theories of gradability.
Item 1 is Moltmann’s formalization of the denotation of a gradable dejectival nominalization (for example "tallness"). Item 2 is Ad Neeleman, Hans van de Koot, and Jenny Doetjes’ formalization of the denotation of a gradable adjective phrase composed of a gradable adjective in the positive form and a comparison class (for example "tall for a five-year old"). And item 3 is Robert van Rooij and Galit Sassoon’s formalization of the denotation of the degree morpheme, called pos, that is standardly taken to be a part of the semantics of constructions of the form "x is a," where again a is a gradable adjective in the positive form, for example "tall" or "good."

So all three formalizations pertain to core expressions and concepts within the formal semantic literature on gradable adjectives and dejectival nominalization. Such formalizations are not occasional within this literature; they are the default mode of representing meanings and meaning derivations. Item 3 is in fact extremely simple. The authors do not and would not pause to provide a natural language paraphrase, let alone explain the symbols employed. Or rather the symbols C, f, and x are explained, but within the formalization itself, in the terms of the lambda-categorical language standard in the discipline.

All of the formalism can be learned quite readily, and likely with particular facility by philosophers comfortable with formal logic. However I see no good reason to provide a tutorial and then to impose such expressions on my audience — especially in the context of introducing all of the informal, but unfamiliar, complex, sometimes abstruse linguistic ideas.

I say that the study is ambassadorial and translational "in some respects." In other respects it is an original work of philosophy, and not merely original in its efforts to synthesize contributions from an array of discussions and results in linguistics. A number of results advanced here are original. The thesis that "good" is fundamentally three-ways ambiguous is original, as are the claims that purposive and operational "good" are polysemes and that quantitative "good" stands in the semantic relation of homonymy to the former two.

While numerous philosophers, for example Aristotle, have suggested that "good" is associated with purpose or function, the thesis that purposive "good" is associated with the dimension-type of gradable purpose serving is original. In addition the claim that "good" is often associated with quality and value and that quality and value are form of purpose serving are original. Also original are the details of the account of purpose and purpose serving explained in chapter four. Among these details, which have not been described in this introduction, the following three are particularly significant: (1) clarification that "purpose" is ambiguous and consequently specification of the sense of "purpose" employed in

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17 Let me also underscore that items 1-3 are semantic representations. The standard forms of representing syntactic structures are entirely different.
the claim that purposive "good" is associated with the dimension-type of purpose serving; (2) defense of the view that purposive "good" and the correlative concept PURPOSIVE GOOD are semantically and conceptually dependent on modal terms and concepts, for example "ought"/OUGHT and "must"/MUST; (3) explanation, on the basis of the more fundamental results, of the traditional distinction between instrumental and non-instrumental "good" and Christine Korsgaard's more recent differentiation of that distinction from the distinction between extrinsic and intrinsic "good." Finally, the explanation of the operation of multi-dimensionality in chapter five, while informed by and engaged with a range of literature on context sensitivity, is also original.

Beyond having told the truth, my hopes for this study are twofold. I hope the results will provide more secure theoretical foundations for inquiries that centrally and heavily rely on the terms "good" and "goodness." In addition I hope that the method I have employed to pursue my leading question will encourage other philosophers who have not already been impressed by the linguistic developments of recent decades to cast their eyes in that direction and to consider its serviceability for their various philosophical enterprises, particularly those in metaphysics. The preceding introductory discussions of gradability, ambiguity and its forms, multi-dimensionality, context sensitivity, and deadjectival nominalization alone should provide an indication of how much there is to be gained philosophically by attending to these linguistic properties and to the work of those who have thought deeply about them.