THE SEMANTICS OF ANALOGY
Rereading Cajetan’s *De Nominum Analogia*

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Introduction

Some Theoretical and Historical Preliminaries

This introduction is intended to orient those readers who may not already be familiar with discussions of the history of analogy and the place of Cajetan’s treatise within that history. It first presents a brief overview of some of the key concepts covered by the term ‘analogy,’ not in specific matters of theology or metaphysics, but in considerations of language, logic, and judgment about the world. It then gives an abbreviated history of thought about analogy before Cajetan, and outlines the central claims for which Cajetan’s treatise has been known.

Preliminary Concepts: Nongeneric Likeness and Associated Meaning

We must recognize at the beginning that it would be misleading to speak of “the” concept of analogy. What philosophers have come to treat under the aegis of “analogy” has no single stable meaning. Although an identifiable, coherent stream of philosophizing eventually emerges, it begins, historically and conceptually, from two distinct and quite separate tributaries.

The first is a matter of relationships between things. Consider two things that seem to be similar, although the respect in which they
are similar is difficult to characterize or define. So, for instance, the items in the following pairs seem to be similar:

1. *The feathers of a bird* and *the scales of a reptile*
2. *Water for a fish* and *air for a mammal*
3. *The sole of a foot* and *the palm of a hand*

In each of these cases, the comparison is apparent, although perhaps difficult to characterize. Indeed, a definition of the basis of comparison may be somewhat awkward, vague, or even elusive. Awkward: feathers and scales are both kinds of flat, overlapping skin coverings. Vague: water and air are the appropriate oxygenating environments for fish and mammals, respectively. Elusive: the sole is the bottom of the foot, but the palm is not the bottom of a hand; we might call the palm the inside of the hand, but not the sole the inside of the foot.

But it is interesting that the relevant likeness is easily seen even if we don’t have a readily available word or description for it. There is a functional similarity, not a precise equality: we do not say that the sole and the palm are the same, or that they have the same property, but that the sole is to the foot as the palm is to the hand. It is easier to describe these likenesses in terms of comparisons of relationships than in terms of some univocal features or common qualities equally realized in them. Feathers are *like* scales insofar as they each play a *similar* role for birds and reptiles respectively. Water is *like* air insofar as they each play a *similar* function in relation to different respective creatures. Let us call cases like these occasions of *nongeneric likeness*.

Now consider another phenomenon, this one not so much a matter of how things are related, but of how words are used. We often use the same word on different occasions, where the meaning implied by one use is close, but not identical, to the meaning implied by another use. For examples, consider the italicized words in the following pairs of statements:

4. Socrates is *wise*; Socrates’ advice is *wise*
5. This is a *commercial* transaction; this is *commercial* real estate
6. I saw the moment of *impact*; the *impact* of the policy was increased productivity
At first one might not notice that the italicized words in each pair have different meanings. These are not cases where the words play different grammatical functions. ('Commercial' can be used as a noun, but it is an adjective in both statements above; 'impact' is sometimes employed as a verb, but it serves as a noun in both statements above.) And yet, on reflection, it is clear that a definition offered to account for one use might not fit the other use. Socrates and his advice are not “wise” in the same way: presumably Socrates has wisdom whereas his advice is either evidence of his wisdom or is likely to produce wisdom in one who follows it. The word ‘commercial’ as an adjective can describe what is an instance of, or an instrument of (or a product of, etc.), the activity of commerce. The noun ‘impact’ can designate either the act of producing an effect, or the effect itself. (Here I set aside what may be a further issue of trying to analyze any differences between a literal physical impact, when one body strikes another, and a more metaphorical impact when something other than a physical body—a policy or ideology—has consequences for something else.) In other words, we don’t have strict synonymy here. On the other hand, we also don’t have arbitrary equivocation, with unrelated meanings that just happen to be attached to the same verbal expression (as the case of ‘bank,’ which can mean the side of a river, or a financial institution). This kind of linguistic flexibility—with distinct but related senses of the same term—is fairly common. The dictionary is full of definitions that begin with such phrases as “of or pertaining to.” Such a definition indicates that there are really several related meanings, meanings which do not make the word fully equivocal, and yet may be distinct enough to be spelled out with more precision, at least in principle. Let us call cases like these occasions of associated meaning.

Although conceptually distinct, occasions of nongeneric likeness and occasions of associated meaning may overlap: we may choose a common word to describe the likenesses between things. Noticing two things that are somehow similar (nongeneric likeness), we may use a word originally appropriate to one in connection with the other (associated meaning): “he shoveled food into his mouth”; “the sun kissed his face.” This certainly describes what happens in instances of metaphor, whether in deliberately contrived poetic metaphors or in
those established and conventional metaphors that are often not even recognized as metaphors in everyday speech.¹

Nonetheless, associated meaning and nongeneric likeness remain theoretically distinct phenomena. One may have cases of associated meaning that are not based on nongeneric likeness (Socrates and his advice are both wise, but not because the advice is like Socrates in some way). And one may notice nongeneric likeness without having a common word available to signify the relevant associated meanings (like the sole of the foot and the palm of the hand—very few people would know, much less find a suitable nonpedantic occasion, to refer to them both as “volar surfaces”).

A Very Brief History of Analogy from Aristotle to Aquinas

If we try to reconstruct a history of analogy as a general theme in ancient and medieval thought, we find that the distinction between these two phenomena—what I am calling associated meaning and nongeneric likeness—was noticed, even taken for granted, from the very beginning.² They were often treated separately and under different terminology—and each became connected with other terminology, sometimes diverging, sometimes intertwining, so that it is only very loosely that we can speak of the history of the notion of analogy.

In Aristotle’s writings, the phenomena of associated meaning and nongeneric likeness remain distinct,³ so much so that a study of his treatment of one need hardly touch on his treatment of the other.⁴ For Aristotle, associated meaning was treated in the context of, and usually as a subclass of, homonymy or equivocation. His classic example is ‘healthy,’ which cannot be entirely synonymous when predicated of an animal, its complexion, and its urine. It is a kind of equivocation where the different meanings make reference to some one common or primary meaning. So the phenomenon of associated meaning is treated by Aristotle as a case of things being named, or of a word being said, with reference to one (πρὸς ἐν λέγεσθαι),⁵ today commonly called “pros hen equivocation,”⁶ or what some more recent philosophers have called signification with “focal meaning.”⁷
We can see how, in the examples of associated meaning above, the definitions offered to explain each use of the term would be different, but related to a common meaning. The meaning of ‘wise’ as predicated of advice would, when fully articulated, make reference to the wisdom of a person called “wise.” (Presumably “wise” advice is the kind of advice that would come from a wise person, or it advises one to do the kind of thing that a wise person would do.) Different senses of ‘commercial’ would all bear some relation to (or “make reference to”) commercial activity. Different senses of ‘impact’ would relate or refer in different ways to the production of an effect.

The Greek word *analogia* was reserved, for Aristotle as well as other Greek thinkers, for the phenomenon of nongeneric likeness. *Analogia* was originally a mathematical term for the comparison of ratios. It is captured in the familiar schema A:B::C:D (A is to B as C is to D). While originally describing quantitative comparisons, the notion of *analogia* and its four-term schema was easily extended to areas of reflection that are not strictly mathematical. Aristotle himself describes this schema in nonmathematical contexts (e.g., at *Topics* 108a), and examples of nongeneric likeness introduced above can readily be expressed in it:

7. Feathers:bird::scales:reptile
8. Water:fish::air:mammal
9. Sole:foot::palm:hand

Aristotle uses this first example himself (*Historia Animalium* 486b). Another Aristotelian example of what we recognize as like by *analogia* is the bone of an animal, the pounce (i.e., cuttle) of a squid, and the spine of a fish; in Greek these three organs did not share a name, “although these too possess common properties as if there were a single osseous nature” (*Posterior Analytics* 2.14 [98a20ff.]; cf. *On the Parts of Animals* 1.4 [644b11] and 2.6 [652a2–3]).

Aristotle’s point here cannot be that *analogia* involves the same word being used in different ways, but that it involves things having similar relations to, or functions within, their respective contexts. Likewise, in the *Poetics*, *analogia* describes the relationships between things named metaphorically (1457b6ff.). *Analogia* is a kind
of likeness or nongeneric commonality. Not surprisingly, then, it plays a significant role in Aristotle’s biology and natural philosophy, where new things are analyzed by comparing them to similar things already known (like an organ in one creature that seems to have a function similar to that of a different organ in a different creature). Significantly, *analogia* appears in the *Metaphysics*, not when Aristotle says that ‘being’ is said in many ways, but when he classifies different kinds of unity; unity by *analogia* is listed after numerical, specific, and generic unity (*Metaphysics* 5.6, 1016b31–1017a3). Clearly for Aristotle, the phenomena of associated meaning and of nongeneric likeness should not be confused.

Even when Aristotle mentions both *analogia* and *pros hen* equivocation in the same context, it appears that his purpose is to contrast them: in the *Ethics* I.4 (1096b27–28) he asks how we should understand the relationship of the different senses of ‘good,’ and two of the choices are that the different senses are common “*pros hen*” (with reference to some one common or primary thing) or by *analogia* (not sharing a common genus), apparently assuming that these are alternatives. So for Aristotle, even if the relationship of *analogia* can be used to explain one of the ways in which a term may be said of many things, the issues of nongeneric likeness and of associated meaning remain distinct for him.

This is not the place to explore in detail all that Aristotle had to say about *analogia* and *pros hen* equivocation. Suffice it to say that, if for Aristotle they were consistently treated as distinct phenomena, the subsequent history of “the” notion of analogy brings them together in an increasing entanglement. Not that this entanglement implies confusion or error. As we have already noticed, there are possible instances of natural overlap between these two issues, and it is only to be expected that these conceptual possibilities are explored.

One essential part of this history is the tradition of Neoplatonic Aristotelian commentary. Here, especially in the context of commentaries on the *Categories*, commentators expanded on Aristotle’s sparse remarks on equivocation to account for associated meaning or “deliberate equivocation.” They furthermore often distinguished different varieties of such deliberate equivocation. Consistent with what was implicit in Aristotle’s comments in the *Ethics*, certain kinds of deliberate equivocation were supposed to take place because of some
relation to something common or primary, and another kind of deliberate equivocation was according to Greek analogia. In other words, nongeneric likeness was used to differentiate some cases of associated meaning from others.

Another cause of the increasing entanglement of associated meaning and nongeneric likeness has to do with peculiarities of sources and translation. Here a pivotal figure, in this as in so many other instances of the Latin transmission of Greek ideas, is Boethius. Boethius helped to transmit the Neoplatonic commentary tradition, which came to treat analogia as something that describes a kind of equivocation. So, in his commentary on Aristotle’s Categories, Boethius first distinguishes equivocation that is accidental or by chance (a casu) from equivocation that is deliberate or intentional (a consilio). He then lists several ways that the different meanings in deliberate equivocation can be related. Among them are equivocation by relation to one (ad unum, translating Greek pros hen), which is distinct from equivocation by “proportion” (where Latin ‘proportio’ had the sense of Greek analogia). Thereby Boethius transmits the Greek Neoplatonic tradition’s distinction between deliberate equivocation by proportion and deliberate equivocation by focal reference.

In this respect Boethius is only passing on distinctions found in influential Greek commentators like Simplicius and Porphyry. But in another respect Boethius’s treatment of analogy adds something to the tradition. Boethius was not always satisfied to translate analogia as proportio, and he sometimes used another term we credit him with coining. Note that Greek analogia, when it was not transliterated, was not precisely translated by Latin proportio, because proportio was also sometimes a translation, along with ratio, for Greek logos. So to recapture the special sense of a relation among relations, Boethius used the abstract of proportio, proportionalitas (proportionality), to characterize the technical mathematical sense of Greek analogia.

It is worth noting that even in the strictly mathematical context of Boethius’s De Arithmetica, proportionalitas exhibits some degree of flexibility. Most generally, it seems to express any kind of common relationship. Today we are in the habit of interpreting each side of a geometric proportionality as a function for calculating a quotient, and so we reduce the relationship between each function to equality. Thus $6:3::8:4$ becomes $6/3 = 8/4$ [= 2]. For Boethius, however, proportionality
is not an equation to be solved so much as an expression of a common relation. “Proportionality is a similar relationship of two or more ratios” (De Arithmetica 2.40). That is why it was useful for characterizing incommensurable relationships, which have no whole number or even rational number equivalent, and why often the proportionality scheme was used not so much to calculate a fourth term, given three others, as to exhibit a kind of relationship, given all four terms. (Alternatively, given the relationship, and two terms X and Z, the task may be to find the “proportional mean” between them—that is, the one number Y, such that X:Y::Y:Z.) But different kinds of relationships can be exhibited, and so different means between the same two numbers can be offered depending on the intended relationship or proportionality: so between 10 and 40, 25 is the arithmetic mean, 20 is the geometric mean, and 16 is the harmonic mean. Nonetheless, for Boethius a geometric proportion is most properly called proportionality (De Arithmetica 2.44), and it seems to be the best model for nonquantitative proportionalities or analogies, such as sole is to foot as palm is to hand.

By coining a new term, proportionalitas, to translate Greek ana-
logia (instead of simply transliterating it), Boethius only encouraged a subtle migration of the Latin term analogia, so that for most scholastics analogia comes to be used to describe not the phenomenon of nongeneric likeness, but the phenomenon of associated meaning, still commonly discussed in the context of homonyms or equivocals in Categories commentaries. Latin analogia thus becomes a mean between univocation and pure equivocation, a deliberate or intentional equivocation—thus for many later Latin authors it is effectively synonymous with what Aristotle called pros hen equivocation, not with what he called analogia.

Thanks to the ongoing influence of the commentary tradition, including especially Arabic sources, by the middle of the thirteenth century Latin analogia comes to be linked to other terms used to describe associated meaning: convenientia (or agreement), ambiguitas, translatio (transference of a name from one context to another), and transsumptio (another term for metaphor). Latin translations of Arabic Aristotelian commentators also introduce the notion of ordered or prioritized ambiguity, which Avicenna, for instance, understood as predication or signification per prius et posterius, loosely, “according
to an order of priority and posteriority.” In all of these instances, the emphasis is on associated meanings of words rather than on proportional relationships between things. Analogia for early and high scholastic thinkers was primarily a linguistic phenomenon, deliberate equivocation, taken to be a mean between univocation and pure (arbitrary) equivocation, and thus thought to involve diverse but related meanings exhibiting some order of priority among themselves.

In tracing the history of reflection on associated meaning and nongeneric likeness, then, we see the convergence, or what I have called the entanglement, of these two threads. Whether, in general or in particular authors, this convergence or entanglement involves a strengthening resonance or a murky confusion is not the question here. Suffice it to say that the two threads become increasingly intertwined by the thirteenth century, when they joined other theological, logical, and metaphysical terminology (such as participatio and imitatio). Even so, the two issues remain logically distinguishable, so that in Bonaventure, for instance, it is still possible and quite illuminating to study his understanding of resemblance (including nongeneric likeness) separately from his theory of analogous naming (that is, associated meaning).

Indeed, while Latin analogia comes to be almost synonymous with what Aristotle called pros hen equivocation, the Greek notion of analogia, or Boethian proportionalitas, as a fundamental insight about relationships between things, retains a wide significance across the disciplines. It is the basis of continuing reflections in mathematics, music, astronomy, architecture, and the physical sciences. There was even a complicated board game, influential in medieval arts education, based on the notion of proportionality as taught in Boethius’s De Arithmetica, with implicit links to the idea of virtue as a (proportional) mean.

To be sure, for historians of philosophy nothing compares to the weight borne by this relationship in the fields of metaphysics and theology. In Aquinas especially, “analogy”—both as associated meaning and as nongeneric likeness—is a crucial concept for understanding the different senses of being, and the possibility of true predications of and knowledge about God. Even here, however, the concern is not purely metaphysical or theological, but rather a nexus of metaphysical, epistemological, and semantic, logical or linguistic issues. It seems
clear that Aquinas, like most other scholastics, used *analogia* primarily for cases of associated meaning, rather than for nongeneric likeness; but by the thirteenth century, as we have seen, many relations between these concerns have been explored and they are not always carefully distinguished. Thus one of the ongoing debates among scholars of Aquinas is whether analogy for him should be considered primarily a metaphysical question (of how things are related), an epistemological question (of how we know and judge things in relation to each other), or a logical question (of how different senses of terms are related to each other).²⁰

This is not the place to try to enter into this disputed territory or summarize Aquinas’s teaching about analogy. In the present context, nothing could do justice to the various primary texts and vast secondary literature on the subject. We will limit ourselves to noting that, in addition to the importance of analogy for Thomistic metaphysics and theology, there is another major reason that so much has been written and continues to be written about analogy in Aquinas: Aquinas himself never presented a systematic theory of analogy.

It has often been noted that there is no *ex professo* teaching on analogy in Aquinas’s corpus. We would notice this just from reading his texts, where the mentions of analogy are occasional and *ad hoc*. There is no dedicated treatise or section of a treatise, no systematically elaborated doctrine of analogy, and the longest discussions of it are still tailored to address particular questions in theology. It seems that Aquinas never wrote comprehensively about analogy as a topic in its own right. Even passages that present apparently definitive classifications or explanations seem to be contradicted by other texts.²¹ It is the absence of a clear theory or doctrine of analogy in Aquinas, as much as the obvious importance of analogy in his thought, that accounts for the extensive reflection on analogy by his later interpreters.

**The Doctrine of Cajetan’s *De Nominum Analogia***

The lack of an *ex professo* analogy doctrine in Aquinas also brings into stark relief the content of Cajetan’s *De Nominum Analogia*. For when we turn to Cajetan’s text we find something that, in style and format,
seems quite different from any writing of Aquinas: a dedicated treatise that articulates a systematic theoretical classification and explanation of analogy.

Cajetan’s *De Nominum Analogia* is a treatise of eleven chapters. It begins by invoking the significance of analogy in metaphysics, alluding to common confusions about analogy, and proposing to clarify these confusions.

The text’s main teaching of analogy, introduced in the first chapter, is that it occurs in three forms or “modes” (*modi*, DNA §3). *Analogy of inequality*, Cajetan says, occurs when things are called by a common name and concept, but the concept is shared or participated in unequally (DNA §4). The example he gives is “body,” which is predicated equally (univocally) of all bodies, although there is an order of superiority and inferiority among bodies (a plant is superior to a stone, incorruptible bodies are superior to corruptible bodies).

The second mode of analogy Cajetan identifies is *analogy of attribution*, where the common name is used with different relations to some one term (DNA §8). His first example here is the classic one of “healthy,” which, depending on whether it is predicated of an animal, of urine, or of medicine, can signify what is *subject of*, or *sign of*, or *cause of* health.

In the third mode of analogy, *analogy of proportionality*, Cajetan says the different notions are related proportionally—that is, according to the scheme that Greeks called *analogia* and Boethius called *proportionalitas* (DNA §§23–24). The example here is *seeing* as predicated of the eye and the intellect, because “just as understanding exhibits a thing to the soul, so seeing [exhibits a thing] to an animated body.” The point is that something can be named in common with another thing that is in a similar relationship. Cajetan says that sometimes this takes the form of *metaphor*, when the transferred word does not properly belong in the new context: for example, a field doesn’t really “smile,” although its blooming might brighten it as a smile brightens a face (DNA §25). Other times, analogy of proportionality is not merely metaphoric, but is a case of *proper proportionality*, when the name properly belongs not only in its original context but also in that context to which it has been transferred (DNA §26): *vision* is really in the body, and *understanding* is really in the intellect, so the intellect
can be said properly to see, by analogy with the sense in which the eye sees.

Cajetan’s treatise goes on to describe different features of these modes of analogy, among which is that analogy of proper proportionality is distinguished from both metaphor and from analogy of attribution because it always signifies what is intrinsic: intellectual sight is really in the intellect, while a smile is not really in the field and health is not really in the urine (DNA §27). At least in part because it always thus involves “intrinsic denomination,” as opposed to the extrinsic denomination that occurs in analogy of attribution (and metaphor), Cajetan insists that analogy of proper proportionality is the most true and proper form of analogy, and the most important for metaphysics (DNA §29). Presumably it is for this reason that the rest of Cajetan’s treatise (chaps. 4–11, or §§31–125) examine further details of analogy of proportionality.

These, then, in superficial summary, are the signature teachings of Cajetan’s analogy treatise: a threefold division of analogy, and a hierarchy ranking analogy of proportionality, as the most genuine form of analogy. As we will see in chapter 1, there are significant and sometimes contentious issues involved here that have drawn the attention of Cajetan’s interpreters. The interpretation of Cajetan’s analogy theory offered in the body of this study emerges from, and is presented within the context of, some of the established arguments of Cajetan’s previous interpreters. But even without any prior awareness of recent hermeneutic controversies, the sketch of Cajetan’s teaching offered here should raise several questions. What is the basis of Cajetan’s threefold division? Is it meant to be exhaustive and exclusive? What theoretical work does Cajetan’s classification do, what problems might his distinctions solve? Where does the theory fit into the framework of philosophy: Logic? Metaphysics? Epistemology?

More questions emerge in light of our preliminary theoretical distinctions. In the terminology introduced above, does Cajetan offer a theory of nongeneric likeness, or of associated meaning, or both? How might one be related to the other? It would seem, for instance, as if Cajetan is using nongeneric likeness (“proportionality”) to distinguish one of several kinds of associated meaning (what he, following
the Latin and not the Greek tradition, calls “analogy”). But then, does his project differ—and if so, how?—from the earlier medieval tradition of Categories commentary, which made analogia (proportionality) the basis of one of several kinds of associated meaning (equivocation pros hen)? And why does Cajetan insist on a hierarchical ranking of modes of analogy? What is the basis of his particular ranking? Why and in what sense is “analogy of proportionality” the most proper form of analogy? What problem might be solved by insisting on its preeminence? Can such a hierarchical ranking of kinds of analogy be found in the work of Aquinas? And in general, how does Cajetan’s theory relate to Aquinas’s thought about analogy, or to the wider history of reflection about analogy?

All of these questions arise naturally when Cajetan’s main teachings on analogy are outlined within the context of the general theoretical and historical overview of “analogy” offered in this introduction. They are some of the questions that the rest of this study is intended to address.