***Historical-Analytical Metaphysics***

***or***

***What* should *a scholastic do in the 21s t century?***

*Way back* in the nineties of the twentieth century, I wrote a little programmatic pamphlet called “[What can a scholastic do in the 21st century](https://faculty.fordham.edu/klima/21ST.HTM)?”. My answer was pretty much what I’ve been doing in the last three decades (and before that, too), namely, what I now refer to as “historical-analytical metaphysics,” which is the phrase I’ve also used in the title of the book-series I’m editing for [Springer](https://www.springer.com/series/11934). Well, so much for the motivation for the somewhat complicated, disjunctive title of this lecture.[[1]](#footnote-2)

But what about the motivation for the project itself indicated by the title? To be sure, with this audience, celebrating the work of Professor Sousedík, I know I’m preaching to the choir: in one way or another we are all doing what can justifiably be called “historical-analytical metaphysics,” even if we may disagree on the details. But, as we know, the devil is in the details, and in what follows I am going to lay out some of the details of what I take to be the essential features of this project, and why they matter.

After all, now my title is not only about what *can* be done, but rather what *should* be done. But why would anyone want to comply with the implied imperative? Well, if I clearly explain the reasons why *I* find it imperative *for me* to do this, perhaps, it will make good enough sense for others to follow.

**Another “disquieting suggestion” *à la* MacIntyre**

Looking at the contemporary scene in philosophy, it would seem obvious that metaphysics, pronounced dead multiple times in modern philosophy, is making a spectacular comeback in this century. After all, “analytical metaphysics,” a phrase that would have sounded to many philosophers like an oxymoron even as late as the seventies or eighties of the last century, is now the legitimate description of an area of specialization in job postings of many respectable departments of philosophy. So, apparently, these days metaphysics is undergoing a miraculous resurrection.

But is this *really* a resurrection of a dead body, or is the situation rather like the case of a dead body appearing to be moving, and hence alive, merely because of the maggots feasting on it? Or, to use a less offensive metaphor, aren’t we, contemporary practitioners of the discipline, like scavengers among the ruins of a fallen cathedral, picking up some pieces here and there, trying to fit them into our modern houses (say, putting a gargoyle over the mantelpiece and a stained-glass window into the bathroom), never quite realizing their proper function and how they would fit together? To have *that* realization, what we would need is not just the pieces, but rather the blueprint, the *form* *of the whole* that is now gone. Indeed, by the lights this metaphor, one is tempted to say that we live in a historical period that *is* *after* *that form is gone*, and so it is also one in which we *should* *be* *after* *that form,* namely*, in its pursuit*.

Alasdair MacIntyre, in his book *After Virtue*, used similar imagery to describe what he perceived was the scenario in contemporary moral philosophy. Indeed, I’m following in his footsteps, while paradoxically walking ahead of him, which is after all possible if we are both walking backwards, as we are, *in history*. So, just to bore you with one more metaphor, in this strange scenario I can do two things he could not: I can *deepen his footprints*, while also *fixing my eyes on our present horizon*. I intend to *deepen* MacIntyre’s footprints by digging deeper down to the roots of our contemporary predicaments, identifying the *historical-metaphysical* roots of the dismal scenario he identified in modern moral discourse. And I am *fixing my sight* on our current horizon both by taking into account recent welcome developments in the recovery of some aspects of the scholastic tradition, *and* by identifying what I think we can gain by a *full* recovery of this tradition, something that points us *beyond* this horizon, even to such trendy subjects as artificial intelligence.

**Analytical metaphysics vs. scholastic metaphysics**

Contemporary analytical philosophy, a way of doing philosophy that can be characterized by a constant, *rigorous reflection on the philosophical uses of language*, is a direct descendant of logical positivism. Logical positivism, however, was arguably the twentieth-century culmination of the strongest anti-metaphysical trends of post-Enlightenment philosophy. Nevertheless, since “the elimination of metaphysics through the logical analysis of language”[[2]](#footnote-3) proved to be a vain attempt, engaging metaphysical issues with an analytical approach more recently turned out to be not only possible, but even desirable.

The development of powerful analytical tools in logical semantics, such as Kripke’s “possible worlds semantics,” enabled analytic philosophers to revive the notion of essence, one of the fundamental notions of the Aristotelian metaphysical tradition. However, given the meandering historical path leading to these recent developments, it should come as no surprise that the commonly assumed modern analytic notion of essence—as a collection of essential properties defined in modal terms—is a far cry from the traditional Aristotelian notion, namely, the notion of *that which establishes a thing in its individual being in its specific kind*. Thus, although many analytic philosophers routinely talk about essences, they equally routinely *talk past* the Aristotelian-Scholastic tradition. By and large this is still the case, notwithstanding some welcome recent developments coming mostly from our historically better-informed colleagues. However, I’d say the revival of some ideas of Aristotelian hylomorphism in the works of these philosophers is still only partial, showing great promise, but failing to deliver what I referred to earlier as the *form of the whole* of the fallen cathedral of scholastic thought. Why is that?

Scholastic thought is compared to the architecture of Gothic cathedrals with good reason. The wonderful structural unity of interlocking arches running down on all sides in a Gothic vault are magnificent representations of the structural unity of interlocking concepts pervading all fields of scholastic inquiry. But remove the keystones, and the vault collapses. Remove some central notions, and the cathedral of thought falls into ruin. Such a conceptual keystone, which held in place (and was held in place by) the interlocking notions of meaning (*significatio*), nature (*natura,* *essentia, quidditas*) and concept (*conceptus, intentio*) in scholastic Aristotelianism, was the notion of *form*. Considered semantically, a form is what a word signifies, constituting its *meaning*. Metaphysically, a form is a determination of a thing’s *being*, establishing the thing in its singular existence in its specific kind or *nature*. Finally, epistemically, it is the form of the thing received in the mind that constitutes the mind’s *concept*, whereby the mind conceives of the nature of the thing signified by the word subordinated to this concept. So, I think the first step in the recovery of our missing blueprint is the full recovery of this keystone notion of form in *all* of these interconnected functions, in its proper conceptual space.

<https://plato.stanford.edu/entries/universals-medieval/#UnivViaAnti>

How can the notion of form serve *all* these diverse functions? How can it serve as this “keystone” in the scholastic cathedral of thought? The simple answer is that this notion is *analogical*. As such, it is in fact a cluster of closely interrelated (in fact, partially “overlapping”[[3]](#footnote-4)) concepts, each deriving from an original, primitive concept. Hence, its proper understanding must start with grasping this primary concept, which is the etymologically primary meaning of the word expressing it.

**The meaning of ‘form’**

So, what is the etymologically primary meaning of the word ‘form’? As is the case with many of our terms expressing abstract concepts, as is indeed the case with the very expression ‘abstract concept,’ which comes from the ideas of pulling away (*abstrahere*), and grasping (*concipere*), the etymologically primary idea is that of something sensible. Thus, primarily, the word ‘form’ (just like the Latin word *forma* from which the English word derives, as well as the corresponding Greek word, *morphé*), refers to the outer shape of a body, the tangible and visible limit of its volume, determining, i.e., terminating, its dimensions.[[4]](#footnote-5)

But of course, this is *not* what a hylomorphist metaphysician would primarily mean by the word. (The *etymologically* primary meaning of a term need not be *semantically* prior in accordance with the intent of a certain group of users of the term; see the medieval distinction between *a quo* and *ad quod nomen imponitur*, i.e., that *from which*, and that *on which* a name is imposed or given to). After all, a human being and a well-made mannequin or android may have the exact same looking and feeling shape, yet they certainly differ in their *form* that determines *what they are*.

So, what the metaphysician primarily means by the term ‘form’ is rather what the scholastics would call *the* *substantial form of a thing*. Well, what is *that*?

Whenever we are in trouble with answering such a what-question, we need to remember that it can be answered in two ways: (1) *metaphysically*, determining *what* the thing in question *is* (providing the *quid rei*, the quidditative definition of the thing), *presupposing* the meaning of the term referring to the thing in question, or (2) *semantically*, by saying *what* we *mean*, specifying the *semantic relations* between the *thing* we are talking about, whatever that thing is in its own nature, and the *word* in terms of which we are talking about it (providing the *quid nominis*, the nominal definition of the meaning of the word naming what we intend to talk about). And, we should also remember that we can answer the question about the quiddity of a thing only *after* we managed to properly identify it based on the meaning of its name.[[5]](#footnote-6)

**Form as meaning**

So, simply clarifying what we mean by the word, we can just bluntly say that when we are talking about a *form* *of a thing*, we mean *whatever it is that makes the thing the kind of thing it is*, signified by the term telling us what kind of thing it is. Of course, the “making” in question is not the way in which, say, a potter makes a pot, or a locksmith makes a key. Rather, by their activity of making a pot or a key, these artisans *bring about* in the matter they are working on, say, clay or iron, a *form* that makes the clay into a pot and the iron into a key, namely, what makes the terms ‘pot’ and ‘key’ true of these things. So, in view of these considerations, forms on this *semantic approach* are “truth-makers,” making the terms signifying them true of the things of which they are true. Therefore, and this is meant to be just *a semantic triviality*, whatever it is that makes the terms ‘pot’ and ‘key’ true of pots and keys is a *form* of these things signified by these terms, and it is the actuality of these forms in these things that makes these terms true of them.

The important thing about this *semantic* *triviality* is that we can safely hold on to it regardless of whether we metaphysically know *what* the *form signified* by the term in question is. Thus, the advantage of holding on to this semantic triviality is that we don’t need to put the cart before the horse: we don’t have to determine profound metaphysical issues at the beginning about the quidditiy or nature of these forms, etc.; rather, we are simply clarifying the rules of the language in which those issues can meaningfully be raised and hopefully be answered.

Nevertheless, despite my insistence on the *triviality* of this semantic conception and the deceptive simplicity of its application to the cases of pots and keys, one may immediately have several misgivings about it.

1. *First*, how does the alleged semantic triviality that the words ‘pot’ and ‘key’ signify the forms of pots and keys explains the “profound” claim I just casually dropped in the introduction that a form is *that which establishes a thing in its individual being in its specific kind* or, in other words, that a form is a determination of the *being* or *existence* of such a thing; indeed, what the heck is “the existence of a thing”? (*The question of the semantics of ‘form’ and ‘being’*)
2. *Second*, how can this “triviality” produce a semantic theory at least on a par with the exactitude of the paradigmatic logical semantic theory of our time, namely, the semantics of predicate logic? (*The problem of constructing a* “via antiqua *semantics*”)

**The semantics of form and being**

First, *in response to* (1), let us clarify the semantics of the terms ‘form’ and ‘being’ (or ‘existence’), based on the suggested *semantic triviality*, namely, that a universal term that is true of a thing, signifies a form of the thing, and it is the actuality or actual existence of this *form signified in the thing* that makes the term true of the thing. This semantic principle, the principle of the *inherence theory of predication*, can be spelled out schematically as follows:

(ITF) A universal term F is true of a thing x, just in case the form signified by F in x is actual

Obviously, the form signified in x by F is actual in x, just in case that form actually *inheres* in x, as the scholastics would say, hence the name of the principle. So, the term ‘form’ refers to what a universal term signifies in a thing. For example, the term ‘key’ signifies a form of, say, a piece of metal, and it is the actuality of this form (whatever it is) that verifies the term ‘key’ of it.[[6]](#footnote-7) But then, clearly, the actual being of this form is precisely its actuality, which is signified by the verb of existence, namely, ‘is’ or ‘exists’ in English. Before the piece of metal in question acquired this form in the hands of the locksmith, it could become a key, but it was not a key. This is the simple fact that Aristotelians express by saying that initially the form of the key was *in potentiality* in this piece of metal and the work of the locksmith brought it into actuality, making this piece of metal into an actual key, which was not there before, but now it exists, because now its form brought into existence by the locksmith exists. So, the being or existence of the key, what the scholastics referred to as its *esse* is nothing, but what the predicate ‘is’ or ‘exists’ signifies in it, just as the term ‘key’ signifies in it the form of the key as such:

(ITE) The term ‘exists’ is true of a thing x, just in case the *esse* signified by ‘exists’ in x is actual

Well, this suggestion may immediately face another barrage of objections from contemporary philosophers. Even if it is granted that the word ‘exists’ can consistently be used as a predicate of individuals (which after Kant through Frege to Russell to Quine to Wiggins and many others used to be a big bone of contention, but by now it is a non-issue), then what is its subject? Is it the key or is it its form? Or is the key the same thing as its form? And if the existence of the key is what the alleged existence-predicate signifies in it and the existence of its form is, again, what the same alleged predicate signifies in this form, then is the existence of the key the same as the existence of the form? Finally, the form of the key is said to be a form; so, the predicate ‘form’ is true of it. Thus, the form of the key has a form, signified in it by the term ‘form.’ And since the actual form of the key exists, and it is also actually a form, the form of the form of the key also exists. Hence, we are again faced with the question of whether the existence of this form, namely, the form of the form of the key, is the same as the existence of the form of the key, etc., etc.

Such and similar issues can be raised *ad nauseam*, until we completely lose track of what we are talking about and give up on the whole game. Therefore, to prevent that outcome, we need to make our language more precise, by addressing the challenge posed by *the second* main question of this section, namely, (2) the question of how we can turn these vague semantic suggestions into a precise logical semantics, matching the exactitude of the paradigmatic logical semantics of our time, namely, the semantics of predicate logic or quantification theory.

**Constructing a “via antiqua semantics”**

So, how can we make the “semantic triviality” of the “inherence theory of predication” noted above more precise, matching the standards of contemporary semantic theory? Take a simple proposition, such as ‘Socrates is wise.’ The truth-conditions of this proposition can be stated in several different, yet equivalent, ways. For instance, we can say that this proposition is true just in case Socrates is indeed wise or that the state of affairs that Socrates is wise obtains. However, this formulation of the condition of its truth does not tell us anything about how the components of this simple proposition contribute to determining what needs to be the case to make it true. So, how do the subject and predicate (let alone the copula) of this proposition determine *just what* needs to be the case? Raising this further question is nothing but moving from the level of analysis of propositional logic to that of predicate logic.

So, let us see what predicate logic tells us about this issue. Following Tarski’s (and Boole’s and others’) lead, standard logic textbooks would tell us that such a simple proposition is true just in case the individual denoted by the singular name ‘Socrates’ is an element of the set denoted by the common predicate ‘wise.’ By implication, this analysis attributes the semantic function of denoting an individual to the singular name and denoting a set to the common predicate.[[7]](#footnote-8)

Another type of analysis, namely, Frege’s, would assign a different function to the predicate: according to Frege’s analysis, the predicate would denote a function from individuals to truth values (the True and the False), and the proposition would be true just in case for the individual denoted by the subject the function in question would yield the value True.

In his seminal essay, “Form and Existence,” Peter Geach made the ingenious suggestion that we can fruitfully interpret several passages in Aquinas about the predicative function of common terms by assigning a different type of semantic function to the predicate, namely, a function from individual substances (such as Socrates or Plato) to their individualized forms (such as Socrates’ wisdom or Plato’s wisdom), whether they actually exist or not. Given this semantic function of the predicate, what makes the proposition true is just the actuality of the individualized form signified by the predicate in the individual denoted by the subject.

So, without going into any model theoretical technicalities, we can say that the same proposition, say, ‘Socrates is wise’ on the Tarskian analysis is true just in case the denotation of its subject (an individual element of the universe of discourse) is an element of the denotation of its predicate (a subset of the universe of discourse), which holds on the Fregean analysis just in case the function denoted by the predicate (a function from individuals to truth values) yields the True for the denotation of the subject, which in turn holds on Geach’s analysis just in case the function denoted by the predicate yields for the thing denoted by the subject an individualized form that is actual, i.e., one that actually exists. So far, this is sheer semantics, simply coming up with a different type of semantic function for predicates.

Of course, assigning this type of semantic function to the predicate involves at least two unusual ontological assumptions: first, marking out a subset of the domain as the set of individualized forms, a peculiar type of entities, and second, marking out a subset of the domain as the set of actual entities, leaving the rest in the shadowy ontological realm of non-actual individuals. Nevertheless, from the point of view of formal semantics, these are just the sort of complications one should expect when dealing with the logical modelling of some philosophically intriguing concepts: for modalities, we may need possible worlds; for tenses and temporal adverbs, we may need time-indexed sets of individuals; for intensional logic in general, we may need time-indexed possible worlds, etc. However, from the ontological point of view, it becomes at once questionable just what sort of “weird entities” our semantics might commit us to.

But upon a bit of reflection, one may quite easily dispel this sort of worry concerning each of the above-mentioned “unusual ontological assumptions.”

As for individualized forms, they are in fact the most ordinary entities we find in our everyday experience: the shape of this ice cube, its coldness, its white color, its watery taste are all that Aristotle, Aquinas, and innumerable other pre-modern philosophers would identify as this ice cube’s individualized forms. In fact, *all* its sensible qualities are just individualized forms of this ice cube, the very items in external reality by which we can have some sensory awareness of the presence of this thing in the first place. So, whoever thinks these forms are some metaphysical phantoms coming from some antiquated Aristotelian dreams about reality that have no place in our ontology informed by modern physics should wake up to the reality of the world they live in, of which they would have no idea without the actual presence of such forms in the first place. However, just *what* these forms are and how they can be identified and characterized in terms of modern science is a further issue, which should, however, *presuppose*, and *not prejudge*, the semantics in terms of which we can intelligibly raise just these questions. So, again, in these considerations, we must not put the metaphysical cart carrying all our ontological valuables *before* the semantical horse, which is supposed to deliver those valuables *only after* the honest toil of unpacking them in our metaphysical disputations. Or, to use again another, in fact, *mixed* metaphor, we must not forget that semantics *only* has the role of staking out the playing field in which metaphysical tournaments are played out, lest we yell out ‘Checkmate!’ in what we think is a chess tournament, upon showing a royal flush. So, if we build a recursive, compositional semantics with a model theory based on Geach’s suggestion, as I in fact did 33 years ago in my [*Ars Artium*](https://www.academia.edu/59091713/Klima_Ars_Artium_1988_),then we get an extremely fine-grained semantics that not only matches, but even surpasses in expressive power the standard systems of intensional logic in currency today.

But now, to stay within the confines of our allotted time, without going into any further general speculations about the relationships of semantics and metaphysics,[[8]](#footnote-9) let us see a little bit more, by way of a more concrete example, about *the significance of Geach’s suggestion* of treating Aquinas’ notion of form as a semantic function of predicates just like Frege’s, except that it assigns different semantic values to the same arguments.

**The metaphysics of form and existence**

In the first place, as should be clear from the foregoing, Geach’s suggestion allows us a precise way of keeping track of what medieval authors are talking about when they are using their notoriously “barbaric” coinages involving an abstract term corresponding to any concrete term conceivable, regardless of whether those abstract terms existed in classical Latin or not. In fact, Geach’s suggestion, along with the further considerations of how that suggestion works in determining the truth conditions of simple predications provides a perfectly reasonable explanation of why medieval authors, prompted by the theoretical needs of their semantic considerations *had to* introduce this terminology: whenever they needed to talk about these significates, they needed the appropriate terms to refer to them, which is the role they assigned to the corresponding abstract terms. So, for example, ‘whiteness’ is a universal term, *not* a singular name of an “abstract property”, but a common term in various contexts variously referring to (or *suppositing for*, to use the Anglicized form of scholastic terminology) the singular whitenesses of singular white things, which are nothing but the significata of the term ‘white’ in these things, namely, the values of the signification function assigning these individualized forms in respect of these things to the predicate ‘white’.

It should be noted, however, that the significates of predicates, despite Geach’s wholesale identification of them with the individualized forms of hylomorphist metaphysics, need not always be regarded as *forms* of their subjects in a strict metaphysical sense, namely, as determinations of an act of real being, a real *esse*.[[9]](#footnote-10) It is such a determination that Aquinas refers to as *determinatio essendi* (in SN1, d. 23 q. 1 a. 1 co. and ad 2). At any rate, I take this phrase to be a fair characterization of a Thomistic understanding of what a real, individualized form is, as opposed to just any significate of any common predicate. Briefly, we can say that some things are one way while others are another way, having their diverse ways or modes of existence (cats are one way, living their cat-lives, while mice are another way, living their mouse-lives, etc.), and the determination determining the actual way they really are is their real form. So, the analogy with the etymologically primary concept would be the following: just as the shape of a body determines its dimensions, giving it one definite shape out of all possible ones, so does the substantial form of a thing determine its mode of being out of all possible ways a thing can be.

However, in “the semantic approach” I am endorsing here, a *signified* form (*forma significata*) does not have to carry this metaphysical weight. After all, in a formal semantics, the ontological categories of semantic values need not be entirely pre-determined: we assign our linguistic items their semantic values in a traceable manner, basically, just heeding compositionality, and otherwise let the ontological chips fall where they may. It will be the task of metaphysicians, heeding these semantic rules, to sort out through metaphysical debates which semantic values should belong to what ontological categories. This is in perfect agreement with Aquinas’ and his famous commentator’s, Cajetan’s, intention, who make a point of leaving the semantic characterization of a “signified” or “denominating form,” i.e., whatever it is on account of which a term denominates an individual, ontologically neutral in this sense:

“… that on account of which something is denominated does not always have to be a *form* according to the nature of the thing, but it is enough if it is signified as a form, grammatically speaking. For a man is denominated on account of his action [as acting] or clothing [as clad], and other things of this sort that are not forms in reality.”[[10]](#footnote-11)

Accordingly, Geach’s suggestion provides us with a precise conceptual tool to keep track of these *signified forms* in medieval discussions of their ontological status and their identities and distinctions, which was precisely the point of many of those debates, (well, until some *subtler minds* started also tweaking the very ideas of identity and distinction, but that’s a later story).

For instance, the debates about the unity or plurality of substantial forms (is it the same form on account of which an animal is a body, a living thing, and a cognitive subject or are these distinct forms?)[[11]](#footnote-12) can be regarded as revolving around the issue of the identity or distinctness of the significates of substantial predicates in the same individual, where a substantial predicate of an individual substance may be defined as one whose significate in this individual has the same *esse* as the individual itself; so, the individual cannot lose it without going out of existence itself. Furthermore, from this perspective, the question of the real distinction of essence and existence in creatures will become the question of the distinctness of the significata of substantial predicates and those of an existence-predicate in created substances, not to mention the debates about the identity or distinctness of items in various categories, such as action and passion, or relations and their foundations, etc., etc.[[12]](#footnote-13) But regardless of these and similar particular issues, the point is that using Geach’s suggestion we can have a precise logical tool for checking the implications of such and similar metaphysical claims, without having to rely on our own vague intuitions informed by a historically radically different conceptual context from the one in which they were originally formulated.

**Natural logic, artificial intelligence, and its natural limits**

I must note, though, that Geach’s suggestion has to be refined and supplemented in several ways to be genuinely usable for such purposes. For instance, since actuality among generable and corruptible things is obviously relative to time, and so forms are individualized not only by their subjects, but also by time, another argument reserved for a temporal variable is clearly needed in a refined version of Geach’s function. This move, of course, calls for further structure for distinguishing various sorts of non-actual elements of the domain of our model, since now we can distinguish items that were, are, or will be actual, and those that could have been, could be, or will be able to be actual, as well as those that could not, cannot, and/or will not be able to be actual, yielding precisely the kind of rich, distinctive model that is just the ordinary frame of reference of most of scholastic metaphysical discussions, as well as most of our ordinary practical reasonings.[[13]](#footnote-14)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Past | Present | Future |  |
| Real Beings | 10 categories of real entities, possible in the past | 10 categories of real entities, possible in the present | 10 categories of real entities, possible in the future | Possible |
| 10 categories of real entities, actual in the past | **10 categories of real entities, actual in the present** | 10 categories of real entities, actual in the future | Actual |
| “Quasi-beings” in *esse intentionale*, *esse obiectivo*, *esse rationis,* or *in* (some other form of) *esse diminuto* | Individual quasi-entities (privations, relations of reason), *significata* of propositions, actual in the past | Individual quasi-entities (privations, relations of reason), *significata* of propositions, actual in the present | Individual quasi-entities (privations, relations of reason), *significata* of propositions, actual in the future |
| Individual quasi-entities (privations, relations of reason), *significata* of propositions, possible in the past | Individual quasi-entities (privations, relations of reason), *significata* of propositions, possible in the present | Individual quasi-entities (privations, relations of reason), *significata* of propositions, possible in the future | Possible |
| Individual quasi-entities (privations, relations of reason), *significata* of propositions, impossible in the past | Individual quasi-entities (privations, relations of reason), *significata* of propositions, impossible in the present | Individual quasi-entities (privations, relations of reason), *significata* of propositions, impossible in the future | Impossible |
| Universals | Abstract  |

Indeed, as we can see, this rich frame of reference can accommodate not only individual substances and their individualized forms (as the significates of their true predicates) whether those are their real forms or mere *beings of reason*, but also universal forms, again, in the domain of *beings of reason*, in perfect agreement with Aristotle’s and his commentators’ doctrine of the *Categories*. However, following Geach’s inspiring suggestion consists not simply in appending a new sub-domain to our universe of discourse, but rather in providing, again, a precise conceptual tool for keeping track of the crucial items in medieval discussions of universals by strictly distinguishing *individualized forms* as the values of the signification function of a common term, from the corresponding *universal form*, abstracted from their individualizing conditions (their subject and time), namely, the signification function of the common term in question itself, obtainable by the mathematically precisely defined operation of functional abstraction (Alonzo Church’s lambda-abstraction). The items thus obtained, then, in our formal semantics can serve as precisely identifiable items in our universe of discourse, modelling universals as the immediate significates of our common terms, as opposed to their ultimate significates, the individualized forms.[[14]](#footnote-15) These items, then, can be treated as mere objects of reason, i.e., objects we can think of, even if they do not exist in the abstract way in which we can think of them. As such, they are regarded as not subject to variation with the variation of individuals or time (since they are obtained precisely by abstracting from these), and so they have to reside in a domain of items to be sharply distinguished from the domain of real beings, which are the only type of items that can be said to have actual, real existence.[[15]](#footnote-16)

But the whole point of all these technicalities is that they offer mathematically precisely defined, clearly traceable items to stand in for our otherwise hard-to-catch items in our metaphysical discussions. Indeed, so much so that these set theoretical “Ersatz items” (functions and their values) can easily be fed into the quasi-ontologies of AI machines, which then, with an appropriately defined validity checker can at once produce all, no matter how weird, implications of any of our claims. Well, am I endorsing now delegating our metaphysical discussions to AI machines?

Of course not. What I am suggesting instead is that using this technical machinery can help not only us, human thinkers keep track of what we are doing (much like using a system of numerals along with the algorithms for their manipulation helps us keep track of our calculations), but it can also be helpful by feeding it into AI systems doing natural language processing (much like feeding our numeral system and its algorithms into our calculators, so we don’t have to slog through the boring process of a long division). In fact, the “natural logic” of the scholastics captured in this system in a machine-processable form can teach these AI systems much of the workings of human language and thought. Indeed, in this teaching process, we can also learn a great deal about what is and what is not teachable to a machine. In any case, we can be quite certain that in this process it will always be the creative human intelligence that takes the lead.[[16]](#footnote-17) An artificial intelligence will always be dependent on the natural human intelligence for the latter’s creativity in *forming* the concepts that then can be used for fast, precise processing by an AI system. In any case, the possibility of using the scholastics’ “natural logic” for producing more “intelligent” AI systems is just another illustration of what awaits us on the horizon if we manage to achieve, using Gadamer’s catchy phrase, “the fusion of our horizons” with our scholastic tradition.

So, to return in closing to my somewhat weird opening metaphor, walking backwards while facing forward we can reach a point from which we can catch a glimpse of the outlines of the entirety of a Gothic cathedral of thought we still need to build and chisel, yet one that is not in ruins, one that does not exist only in romantic fantasies based on scattered museum-pieces, but one that is fully functioning: its gateway pointing the way toward a future in which our children, working in *their* *present* toward *their* *future* will never be so alienated from *our* *past* as *we have been* throughout much of our modern history.

1. What follows is a somewhat “retooled” version of the introductory chapter of a monograph I’m working on, entitled *After Form: An essay in historical-analytical metaphysics.* [↑](#footnote-ref-2)
2. As the logical positivist program was famously summarized by Rudolf Carnap’s article under this title. [↑](#footnote-ref-3)
3. This idea was spelled out with precision in the model theory presented in my *Ars Artium*, Hungarian Academy: Budapest, 1988. [↑](#footnote-ref-4)
4. The case is also similar with the more “sophisticated” terms ‘species’ and ‘eidos,’ which refer to the outer appearance of a body as it appears to the eyes, but there is no need to pursue this matter here. [↑](#footnote-ref-5)
5. “… quaestio ‘an est’ praecedit quaestionem ‘quid est’. Sed non potest ostendi de aliquo an sit, nisi prius intelligatur quid significatur per nomen.”– “the question of whether something is precedes the question of what it is; but one cannot show of something whether it is, unless it is first understood what is signified by [its] name”) *Expositio Posteriorum*, lib. 1 l. 2 n. 5 [↑](#footnote-ref-6)
6. We should note here at once, though, that the shape of the key in itself would not make it a key without a matching lock it can open. So, the term ‘key’ is relative, which would have to be taken into account in its semantics. How this can be done will be indicated later, but at this point the particular issue of the semantics of ‘key’ is irrelevant. [↑](#footnote-ref-7)
7. Note, accordingly, that on this semantic approach, just like on Frege’s described next, the difference between a singular and a universal term is reflected in the difference between the types of entities (individuals vs. sets of individuals) assigned to each as their semantic values. [↑](#footnote-ref-8)
8. Such speculations, however, will be prominently featured on the next meeting of the recently founded Society for the European History of Ideas to be held in Lisbon next year: (<https://www.societyfortheeuropeanhistoryofideas.org/>). [↑](#footnote-ref-9)
9. For more on the logic of this approach to the issue see Klima, G. “Being,” Marenbon, J. (ed.), *The Oxford Handbook of Medieval Philosophy*, Oxford University Press, pp. 403-420. [↑](#footnote-ref-10)
10. *De Potentia* q. 7, a. 10, ad 8. Cf. “Don’t be mistaken when you hear that a denominative is derived from the denominating form, and believe on account of the word ‘form’ that the denominating feature has to be the form of what is denominated; you should know that by the name ‘form’ in this context we understand anything on account of which something is called such, whether it be in reality an accident, or a substance, or matter or form.” Thomas de Vio Cajetan, *Scripta Philosophica: Commentaria in Praedicamenta Aristotelis*, ed. M. H. Laurent, Angelicum, Romae, 1939, p. 18. [↑](#footnote-ref-11)
11. For more detail and an excellent historical survey, see Callus, D. A.: “Forms, Unicity and Plurality of” in: *New Catholic Encyclopedia*, McGraw-Hill: New York, 1967-79, Vol. 5, pp. 1024-27. [↑](#footnote-ref-12)
12. For a discussion of these medieval metaphysical issues contrasted with modern approaches to essence and existence, see Klima, G. (2002) “Contemporary ‘Essentialism’ vs. Aristotelian Essentialism”, in: J. Haldane, (ed.), *Mind, Metaphysics, and Value in the Thomistic and Analytic Traditions*, Notre Dame, pp. 175-194. [↑](#footnote-ref-13)
13. The diagram presented here is from Klima, G. “[Being](https://www.dropbox.com/s/u4u24vzjeodgfmo/Springer-Being.pdf?dl=0),” Lagerlund, H. *Encyclopedia of Medieval Philosophy*, Springer: Dordrecht, 2011, pp. 150-159, p. 156. [↑](#footnote-ref-14)
14. For a reconstruction along these lines, see Klima, G. “The Medieval Problem of Universals,” *The Stanford Encyclopedia of Philosophy* (Fall 2013 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/fall2013/entries/universals-medieval/>. [↑](#footnote-ref-15)
15. Again, see the article referenced in n. 13. [↑](#footnote-ref-16)
16. For more on this, see Klima, G. (2020) with Stephan, K. “Artificial Intelligence and Its Natural Limits”, *AI & Society*, 36(2020), pp. 1-10; Springer online first: DOI: https://doi.org/10.1007/s00146-020-00995-z; read online: <https://rdcu.be/b4wmM> [↑](#footnote-ref-17)