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## Thomas Aquinas, *Magister Ludi*: The Relation of Medieval Logic and Theology

*Ludus delectabilis est, et contemplatio sapientiae maximam  
delectationem habet.*

– Thomas Aquinas: *Expositio libri Boetii  
De ebdomadibus, proemium*

### I. INTRODUCTION

Hermann Hesse's *The Glass Bead Game* (*Das Glasperlenspiel*) is Aristotelian science fiction. Published in 1943, Hesse's last, brooding, existential novel describes neither advanced technology nor new discoveries in natural science; instead, it imagines an advanced culture of philosophical study and learning, an aristocratic intellectual bulwark against utilitarian science and shallow mass media, which synthesized and developed the best habits of academy, monastery, conservatory and university – a kind of alternative-history neo-scholasticism.

At the heart of this culture is a game – “the Glass Bead Game” – which makes it possible to carry out theoretical exploration and conversation, ritually but creatively, through the manipulation of highly symbolic glass beads. A move in the game is meaningful not only because of the beads' individual meanings, but additionally because of the relation between the beads to each other in the game, and even more the relation between the play of the present game and that of past games. Moves, governed by elaborate and highly traditional rules, are thus not only assertions or questions but allusions to or variations on past moves, and part of a larger overall conversation about or exploration into the profoundest ideas and highest objects of contemplation.

As such, the “game” is a means of the most refined and intense spiritual discipline:

It represented an elite, symbolic form of seeking for perfection, a sublime alchemy, an approach to that Mind which beyond all images and multiplicities is one within itself – in other words, to God... The symbols and formulas of the Glass Bead Game combined structurally, musically, and philosophically within the framework of a uni-

versal language, were nourished by all the sciences and arts, and strove in play to achieve perfection, pure being, the fullness of reality. Thus “realizing” was a favorite expression among the players. They considered their Games a path from Becoming to Being, from potentiality to reality.<sup>1</sup>

In Hesse’s alternative history, the origin of the game was traced through medieval intellectual culture (the backstory mentions Abelard and Nicholas of Cusa, and the book begins with a Latin epigraph about “non entia” from the fictional Albertus Secundus), and the culture of the game retained a respectful relationship with, though it was distinct from, the Catholic Church. But the rules and symbols of the game were so comprehensive that they could be used to articulate or develop any sort of artistic or theoretical or spiritual expression, and so of course

the terminology of Christian theology, or at any rate that part of it which seemed to have become part of the general cultural heritage, was naturally absorbed into the symbolic language of the Game. Thus one of the principles of the Creed, a passage from the Bible, a phrase from one of the Church Fathers, or from the Latin text of the Mass could be expressed and taken into the Game just as easily and aptly as an axiom of geometry or a melody of Mozart. (Hesse 1969. 41.)

In Hesse’s novel, to experience a certain kind of conversation and contemplation, one must engage in the Game itself; the development of certain kinds of conversations and access to certain kinds of contemplation was itself the development of the Game, and the development of the Game was the development of those most noble human endeavors. “We would scarcely be exaggerating if we ventured to say that for the small circle of genuine Glass Bead Game players the Game was virtually equivalent to worship, although it deliberately eschewed developing any theology of its own” (Hesse 1969. 41).

I want to suggest that in describing a “game” with a crucial relationship to theology, Hesse offers a metaphor for medieval logic. This paper will proceed by exploring the appropriateness of the metaphor, and then by considering what we can learn from it about the study of logic and theology in medieval thinkers, especially in Thomas Aquinas. For those whose primary interest is medieval logic, this will be an invitation to consider that apparently separate questions from metaphysics and theology contribute to the very intelligibility of medieval logic. For those who are interested in theology – especially the theology of Saint Thomas, doctor of the Church – it is an invitation to take seriously the essential role of logic in Thomistic theology (and so, necessarily by extension, in the

<sup>1</sup> Hesse 1969. 40. This translation is subtitled (in parentheses) “Magister Ludi,” which was the title given to an earlier English translation by Mervyn Saval, published in 1949.

historic development and expression of the faith of the Church). In short, I will argue simply that one cannot understand medieval logic without understanding medieval theology, and that one cannot understand medieval theology without understanding medieval logic. We will see, in fact, that each helped develop the other, as important facets of a larger project.

In a later section of this paper I provide specific examples of how theological inquiry that is not accompanied by an adequate understanding of medieval logic can lead one to misinterpret or misunderstand central Christian theological claims. Using specific examples from Aquinas, I will show how neglect of, or inadequate understandings in, the realm of logic can obscure significant features of an orthodox theological position, confuse basic claims of traditional theology, make orthodox theological claims appear heretical, or even render as inscrutable metaphysical claims that are presented as basic and necessary rational truths. These are examples of misunderstanding *theological* claims, rooted in a failure to enter into the relevant *conceptual framework* in which those claims were formulated; they reveal the importance of understanding the relationship of historical expressions of Christian faith to medieval logic – and thus the opportunity for those versed in medieval logic to help clarify and explain the work of historical – and so also contemporary – theologians.

But before getting to that, I will explore in the earlier parts of this paper the other side of this relation, that is, how knowledge of theology helps us to make sense of medieval logic. Interest in specific theological doctrines, and general Christian theological commitment, provided impetus for the development of much of medieval logic. Consequently scholars attempting to understand medieval logic benefit from familiarity with and appreciation of its theological context. I approach this part of my thesis by a sort of *via negativa*, by showing first that attempts to understand medieval logic on its own, without attention to any theological impetus, render the very practice and purpose of medieval logic rather puzzling.

## II. SPADE'S QUESTION: WHAT WERE MEDIEVAL LOGICIANS DOING?

The past half century or so has seen a strong revival of attention to medieval philosophy, with especially robust attention to medieval logic. But paradoxically, the high degree of attention paid to medieval logic has not always been accompanied by a keen understanding of, or even interest in, what medieval logic is for. Thus, for instance, *The Cambridge History of Later Medieval Philosophy* (Kretzmann 1982; “CHOLMP”) was rather lopsidedly preoccupied with logic – such that in his review of the volume Alfred Freddoso observed

the disproportionately large amount of space allotted to the discussion of medieval logic and grammar – more than half the text of CHOLMP, once we discount the four historical essays meant to set the intellectual stage for medieval scholasticism and its modern scion, neoscholasticism. Less than half of CHOLMP is devoted to late medieval metaphysics, epistemology, ethics, and political philosophy. Astonishingly, late medieval philosophical theology receives (by design) virtually no attention at all. (Freddoso 1984. 151.)

Freddoso's point is not only that attention to medieval logic has come at the expense of attention to other areas, but that it has, in a way, come at its own expense. As he continues:

CHOLMP's inordinate stress on logic obscures the fact that the most profound thinkers of the late medieval era (e.g., Bonaventure, Aquinas, Scotus, Ockham) viewed logic primarily as a tool, albeit an indispensable one, for dealing with the "big" questions in metaphysics and theology. To illustrate, Aquinas's perceptive discussion of the logic of reduplicative propositions occurs within his treatment of the doctrine of the Incarnation. Again, by the time that Ockham wrote his groundbreaking *Summa Logicae*, he had already employed almost all his distinctive logical insights in one or another metaphysical or theological context. (Freddoso 1984. 152.)

The observation that medieval thinkers often addressed logical questions in theological contexts might seem obvious, but it could also seem insignificant and purely accidental to the study of logic. Of course we find medieval thinkers attending to logic in theological contexts, because they happened to be interested in theological questions; but if one assumes that logical resources are in principle independent from the theological discussion, we are free to attend to the logic ideas without any consideration of – or even curiosity about – their theological context.

The lack of curiosity about what medieval logic is for is highlighted by the rare case of a scholar who explicitly raised the question. Almost twenty years after the publication of the *Cambridge History*, Paul V. Spade wrote a striking paper expressing genuine perplexity that so much of medieval logic doesn't have an obvious purpose, and that so few medieval logicians are explicit about what their work is about. The title of his paper was: "Why Don't Mediaeval Logicians Ever Tell Us What They're Doing?" The subtitle is even more dramatic: "What is this, A Conspiracy?" (Spade 2000).

To illustrate his point, Spade gave four examples from medieval logic. *Exhibit A* was the theory of *obligationes* – a highly structured, rule-bound form of argument, in which counter-factuals and thought experiments play a large role. As Spade explained, on the one hand obligations-theory can't be just about testing logical skill (since some of the rules were rather arbitrary and the participant's

knowledge of actual facts often mattered), and yet on the other hand it does not seem to have been about gaining any knowledge unconnected to the rules of the game themselves. Texts about the *obligationes* are silent on their purpose.

*Exhibit B* was the theory of exposition – a method of articulating an individual proposition into a logically equivalent conjunction of propositions which make explicit what is only implicit in the original proposition. This sounds like “logical analysis,” but as Spade argued, it wasn’t always the case that the conjunction of more explicit propositions is more perspicuous, logically or ontologically – the “exposition” is often more puzzling and difficult to comprehend than the original proposition it “expounds” – and medieval thinkers who practiced this are not forthcoming about why an exposition is useful.

*Exhibit C* was the theory of “proofs of propositions” – a set of strategies for showing how one proposition can be “proved” by other propositions. But the kind of “proof” described is neither one of establishing truth nor of removing doubt, nor is it purely about logically valid form. There were specific rules about what could be accepted as “immediate” propositions incapable of “proof” – but those engaged in this theory don’t seem to follow their own rules, and again are silent on what the theory is for.

*Exhibit D* was the theory of supposition, which Spade argues was not just an account of how terms indicate things (a theory of reference) but a theory of how to interpret a term and the things it refers to (descent to singulars) depending on the kind of sentence it appears in (and so sometimes involving also a kind of exposition of one proposition into an “equivalent” set of more explicit propositions). That has reminded some of modern quantification theory, but Spade convincingly shows that the comparison is misplaced: supposition theory’s so-called “equivalences” sometimes weren’t. And once again, “no one knows what that was all about.”

Spade’s formulation of the problem was refreshing in its honesty. Still today, proposals about the purpose of medieval logic are not common, and even the fact that its purpose is a question can go unrecognized. Terrence Parsons’s *Articulating Medieval Logic*, for instance, is as thorough and insightful a study of medieval logic as one could hope for, and yet not only does it not answer, it doesn’t even ask, the question of what medieval logic was for (Parsons 2014).

Some scholars have done work that sheds light on the purpose of medieval logical theories. One particularly fruitful approach has been that taken by Catarina Dutilh Novaes, whose work on the development and nature of logic can be understood, at least in part, as a response to Spade’s question. Dutilh Novaes emphasizes the social and dialogical dimension of logic. In the case of supposition theory (Spade’s Exhibit D) for instance, she argues that it is essential to understand it in terms of the context of certain interpretive practices, namely textual commentary and disputations. This allows her to reinterpret supposition theory, not as a theory of reference, but as a theory of “interpretation, of seman-

tic analysis..., of hermeneutics” (Dutilh Novaes 2008. 30) or more specifically a theory of “algorithmic hermeneutics” (Dutilh Novaes 2008. 7ff).

In another case, Dutilh Novaes interprets *obligationes* theories (Spade’s Exhibit A) as providing a model of what it means to act and talk rationally, i.e., to take part in (mainly, but not exclusively) discursive social practice. She describes this as a “game” (Dutilh Novaes 2005), and more specifically as “a regimentation of ‘the game of giving and asking for reasons’” (Dutilh Novaes 2009).<sup>2</sup> The notion of a “game of giving and asking for reasons” comes to her from Brandon 1994, who traces it Wilfred Sellars.<sup>3</sup> The provenance could suggest a functionalist, empiricist, and pragmatist approach to philosophy, far from the scholastic mode.<sup>4</sup> But for Dutilh Novaes is connects what is usually perceived as the more abstract nature of logic with the socially-embodied practice of human rational inquiry. The game “should,” she says, “account for what makes us social, linguistic and rational animals”; in addition to being about rules of inference, the game of giving and asking for reasons “is fundamentally a normative game in that the *propriety* of the moves to be undertaken by the participants is at the central stage” (Dutilh Novaes 2009).

This is a promising and very helpful approach, not only for understanding medieval logic but for understanding its relation to modern logic and for reimagining how they might be seen as parts of a larger, common project. As Dutilh Novaes argues in a more recent essay,

traces of logic’s dialogical origins persist in recent developments, which means that taking the dialogical or dialectical perspective into account is essential to come to a thorough understanding of the nature of logic even in its more recent, mathematical instantiations – also because mathematics itself is very much a dialogical affair. The history of logic also leads us to question the overly individualistic conception of knowledge and of our cognitive lives that we inherited from Descartes and others, and perhaps to move towards a greater appreciation for the essentially social nature of human cognition. (Dutilh Novaes 2017.)

If we are to take the social dimension of human life as relevant to logic, then it gives new weight to Freddoso’s comments about scholars’ neglect of the actual interests of medieval thinkers. In principle, a general attention to the social con-

<sup>2</sup> This argument was further developed in Dutilh Novaes 2011.

<sup>3</sup> Sellars 1997 (Sellars’s book was originally published in 1956). See also Brandon’s “Study Guide” appended to the 1997 edition.

<sup>4</sup> In fact, the metaphor of dialectic as a “game” goes back at least as far as Plato, who has the title character of *Parmenides* describe the structured inquiry into One as a “serious game” (*pragmatiōdē paidian paizein*, 137b3). For an interpretation of Eleatic “antilogic” (or *elenchus*, or the “art of contradicting”) as game, see Castelnérac 2013. On Proclus’s attention to the game metaphor in *Parmenides*, and its development in Renaissance commentary, see Bartocci 2019.

text of medieval logic will not be complete without reference to a specific kind of community invested in that logic: in short, a Christian community (even, one might say, the Church itself, not considered as a political entity but as an embodied expression of spiritual interests, ideas, beliefs, relationships, and practices).

It is not controversial to point out that medieval logical reflections took place within a particular intellectual culture in which an obvious motivation and inspiration was desire for better understanding and effective communication of the Christian faith, and it doesn't take much of a stretch to suggest that this climate would have some effect on medieval logic's nature and purpose. And once pointed out, we realize that the importance of theology, and specifically Christian theology, for understanding medieval logic has not really been hidden from us.<sup>5</sup>

### III. MOODY'S ANSWER: LOGIC'S THEOLOGICAL ORIENTATION

In what almost seems like an observation formulated to anticipate Spade's query, Ernest Moody in 1975 characterized the purpose of medieval logic by contrast to the purposes of ancient and modern logic:

The fundamental historical condition that affected the development of logic in the Middle Ages, and that determined its distinctive form and character, was the function assigned to it, and the part played by it, in the clerically dominated Christian program of education. Whereas the logic of Aristotle was developed for the primary end of exhibiting the formal structure of demonstrations in the sciences of nature, and modern logic has been developed as an abstract formulation and axiomatic derivation of the principles of mathematics, medieval logic functioned as an art of language (*sermocinalis scientia*) closely associated with grammar, to be used as a means of construing authoritative texts of Sacred Scripture and of the Church Fathers and of establishing interpretations of such texts that would be logically coherent and free from contradiction. (Moody 1975. 373–374.)

So to be clear, Moody identifies three stages of logic. The oldest, Aristotelian logic, was a tool for exhibiting the structure of reasoning about nature. The most recent, modern logic, is a more abstract and mathematical exercise, meant to be more formal and axiomatic. In between, medieval logic was “an art of language” developed for avoiding error and contradiction in interpreting holy texts.<sup>6</sup>

<sup>5</sup> Even so, Gabbay 2008 gives little explicit attention to theology apart from a section on “logic and theology” in Marenbon's chapter on the Latin tradition until 1100. There is attention to theology in the chapter on Abelard, and only a small amount in the section on Aquinas discussing the “mental word” and analogy.

<sup>6</sup> In Gabbay 2008, Gyula Klima's contribution on nominalism notes that logic's status as a universal art accounts for its connection to other philosophical questions: “The primary

Moody's account of the purpose of medieval logic makes sense as soon as one hears it, or it should. On the face of it, a cultural or religious tradition committed to the unity of truth and to the harmony of faith and reason, and confident not only in the existence, wisdom and knowability of God but also in God's essential reasonableness (an apparent implication of characterizing God as *Logos*), and thereby invested in a particular way in textual exposition (reading and interpreting inspired scriptures) and in evangelization (announcing, teaching and defending the saving truth) – a community invested in all this would and should find itself embracing, and in turn shaping, the development of an “art of language.”<sup>7</sup> Logic, whatever its origins and former contexts, was recognized by medieval Christian thinkers as just this art – the “art of arts” or even “science of sciences” – and was embraced accordingly.

Although much scholarly focus on medieval logic is in its later developments, the fruitful relationship of logic and theology was recognized especially clearly among early medieval thinkers, so that scholars (such as John Marenbon) have described early medieval philosophy as being born from the interaction of theology and logic.<sup>8</sup> The theological orientation of medieval interest in logic even imbues it with a spiritual purpose, so that Anselm (as Eileen Sweeney has argued) regarded the purpose of logic as supporting the project of union with God.<sup>9</sup> And we can regard it as a significant new development in later medieval philosophy that logic might come to be treated as a discipline that has more autonomy and independence from theology (as Zupko 2003 argues is so crucial to Buridan's legacy).

In short, Moody's answer suggests that the question of the purpose of medieval logic cannot be adequately answered without reference to the fundamen-

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*theoretical* reason why medieval logic comprised subjects that we would recognize as falling under such varied subjects as metaphysics, cognitive psychology, linguistics, the philosophy of science, and epistemology is the medieval conception of logic as a universal theoretical tool (*organon*) of reason in its pursuit of truth and avoidance of error” (Klima 2008). For the same reason, it was also crucially tied to and motivated by *theological* conviction.

<sup>7</sup> Sweeney 2006. 1: “...the sciences of words – logic, grammar, and rhetoric – are developed and their power harnessed in order to name God, interpret scripture, argue in support of Christian doctrine, and ultimately reach God in prayer and meditation.”

<sup>8</sup> Marenbon 1981. 4: “Early medieval philosophy grew out of the fusion of two disciplines which were not themselves philosophy: logic and theology. The tools of logic were summoned to clarify and order Christian dogma; and, far more important, concepts and arguments logical in origin were charged with theological meaning.” Cf. 139: “The imposition of theological interests on logical texts led [medieval thinkers] to ask questions about the fundamental constitution of reality, and to give answers which were consistent with Christian dogma but not in any simple way derived from it.”

<sup>9</sup> Sweeney 2012 describes logic and theology as having a “mutual and necessary connection,” neither one subordinated to the other (76; cf. 107). “Anselm always *both* takes the tools of grammar and dialectic into his theological works *and* works hard to show the ways in which those tools and that language is transformed by his subject matter, whether it is God or creatures as from God” (345). Anselm's “rational and spiritual projects are elements of an integral whole” (369).

tally theological orientation of those who used it. It would be too simplistic to say that medieval logicians were *doing theology* (although often the texts that we refer to for our knowledge of medieval logic are in fact theological texts, and even explicitly logical texts were often intended as training for further theological study). On the other hand, it is not quite sufficient to say only that, insofar as theological concerns were intellectual concerns, they were simply explored according to whatever set of logical methods and terminology were available, as if these were developed independently of, and can be understood apart from, theological context.<sup>10</sup>

#### IV. THE GAME AND THE TOOL: LEARNING FROM THE METAPHORS FOR LOGIC

We are used to thinking of a “game” as a paradigmatic case of a leisure activity, in the Aristotelian sense – something done for its own sake. And yet, as the usage of Hesse and Dutihl Novaes helps to remind us, a game can also be useful, and serve a purpose outside of itself.<sup>11</sup> To describe logic as a “game” is thus not to describe it as useless or ordered only to its own ends (much less to describe it as frivolous or unserious, or as an arbitrary and fully-self-contained series of rules). To describe a logical practice as a game is to acknowledge its integrity as a system of rules which guide choices, a system which takes practice to master, and in which accomplished practitioners can take enjoyment in the work of mastering. As a game, it may have its own intrinsic goods – but that does not mean that it does not serve other, higher goods, nor that the development of the

<sup>10</sup> Novikoff 2013 adds helpful historical detail and cultural nuance to what I’m calling “Moody’s answer” to the question of logic’s purpose. It aims to “trace the origins and influence of scholastic disputation as a normative cultural practice in medieval Europe,” especially the late 11<sup>th</sup> to late 13<sup>th</sup> centuries. Novikoff finds the roots of medieval dialectic in the dialogue and ancient literary forms, and identifies five stages of growth from dialectic as a pedagogical ideal to the defining feature of medieval intellectual life: (1) Anselm used dialectic to persuade about faith and explain the rationality of faith; (2) the transition from monasteries to new schools involved the development of new tools for studying scripture and structuring debate; (3) with new Aristotelian texts (the *logica nova*) came new models of dialectic argumentation (e.g. in John of Salisbury’s *Metalogicon*); (4) disputation was integrated into university teaching, and with its pedagogical institutionalization came also new literary forms modeled on classroom debates; (5) disputation ventured outside the universities into the public sphere.

<sup>11</sup> Aquinas answers an Aristotelian objection that playful action is not directed to a further end, in *Summa Theologiae*, IIa-IIae, q. 168, a. 2, ad 3: “the very operations of the game, with respect to its species, are not ordered to some other end, but the delight taken in such acts is ordered to the refreshment and peace of soul.” Cf. Aquinas’s proemium to his commentary on Boethius’ *De hebdomadibus*, which embraces game / play (*ludus / ludo, ludere*) as a model for contemplation.

game should not be shaped by and improved by its ordering toward those higher goods.<sup>12</sup>

With such reflection on the metaphor of a game in mind, we may fruitfully revisit another common metaphor for logic, mentioned by Freddoso, and more common in the tradition: the metaphor of a tool. In a kind of mirror image of the simplistic interpretation of the “game,” we are used to thinking of a tool not only as an instrument but as *merely* an instrument, and thus with no intrinsic value nor even any essential connection to the good that it serves – it is always ready to be replaced by a newer, better tool. Thus in common usage the image of a “tool” becomes the icon of instrumental or utilitarian reasoning. Yet in many crafts, the tool is an essentially designed implement, a part of the craft and an extension of the craftsman bringing him closer to his craft. Indeed, in some crafts, the craftsmen themselves design and develop their tools, and at the very least it is their prerogative to conduct and direct those who do. The craftsman judges his tools in light of his craft; he expects superior tools and rejects inferior ones, he makes recommendations about how tools could be improved, and he can evaluate whether innovations in the tool would strengthen or weaken his craft. In the well-known example from the beginning of Aristotle’s *Nicomachean Ethics*, the bridle-maker serves the equestrian, and so the equestrian governs the bridle-maker. This does not mean that the equestrian knows how to make bridles (although he could), but it does mean at the very least that he will admire, care for, and have authority to adapt bridles to his purposes; and he will feel most at home with the finest bridles that best serve the equestrian art.

In short, to the craftsman a tool is not incidental to the craft; it shapes the craft, and the craft shapes the tool. If we say, then, that for medieval thinkers logic was a tool for theology, we should expect that theologians would come to feel a proprietary interest in the tool, would appreciate its role in their theological project, and in particular that the more logic was a genuine tool of theology, the more theology and logic would shape each other.

#### V. THE CRAFT SHAPES THE TOOL: THE INFLUENCE OF THEOLOGY ON MEDIEVAL LOGIC

So looking at the history of medieval logic and theology, we should expect to find and do find areas where theological questions could not obviously or uncontroversially be answered or even formulated using already available logical principles, methods, or moves, and so theology prompted clarification or even

<sup>12</sup> For just these reasons the importance of games is widely recognized in developmental psychology.

innovation in logical theory – in the way that, say, a distinctively challenging horse, or an advanced equestrian movement, may prompt the development of a specially adapted bridle.

So far, this suggests a practical implication for scholars, namely that a familiarity with theological context – with beliefs, practices, and institutions of medieval Christendom – would be of benefit to historians of medieval logic. A thorough and responsible exploration of this thesis would need to distinguish different theoretical parts of logic (concerning terms, propositions, and arguments, according to the traditional divisions going back to Aristotle) as well as different stages within medieval logic (*logica vetus*, *logica nova*, *logica modernorum*) and different approaches (e.g. realism vs. nominalism, and debates about the subject of logic and its status as a science or relation to other sciences) along with particular theories (*obligations*, supposition, etc.); not to mention different parts or modes of theology (natural vs. revealed; Scriptural exegesis, moral pedagogy, doctrinal defense). It will suffice here simply to note – in addition to some of the cases mentioned above or referenced in footnotes – some of the more widely recognized cases, mostly in later medieval philosophy, of “theories of medieval logic which can be regarded as important logical innovations and which were originally introduced in order to solve theological problems or... were essentially developed in relation to theology” (Knuutila 2006). In addition to the work just cited, other scholarship (including Brown 1993, Ebbesen 1997, de Libera 1997, Pini 2003, Knuutila 2007, and Amerini 2013) examines in detail various areas where theological topics motivated logical theory:

- Divine foreknowledge and omniscience, the possibility of prophecy, and human and divine freedom shaped modal logic, the interpretation of temporally definite propositions, and the development of the theory of the *significata* of propositions from *dicta* through *enutiabilia* to *complexa significabilia*.
- The doctrines of the Trinity, the Incarnation, and the Hypostatic Union prompted reflection about reduplicative propositions, identity, and predication, distinctions between intensional and extensional sameness, as well as to supposition theory, obligations theory, and insolubilia.
- The doctrine of the Eucharist and the act of consecration inspired attention to demonstrative pronouns as well as the notions of substance, accident, and inherence.

The focus of these examples is primarily specific theological doctrines and how they motivate specific logical concepts and theories, but we can also expect that the general religious circumstances influenced the practice of medieval logic, as for instance the circumstances of Aquinas in the Church and in his order affect-

ed how he adopted and deployed the *questiones* method in different theological texts for different audiences and pedagogical purposes.<sup>13</sup>

In any event, our examples serve to show how, in particular cases, theological concerns motivated developments of medieval logic, and so they illustrate in general how appreciation and understanding of medieval logic can be advanced by theological awareness.

## VI. THE TOOL SHAPES THE CRAFT: THE INFLUENCE OF LOGIC ON THEOLOGY IN AQUINAS

Now I want to turn to Aquinas to show how the mutual influence of logic and theology worked in the other direction, to give some examples of how logical assumptions formed the development of theology. For in addition to theology prompting developments in logic, we should also expect to find, in looking at the history of medieval logic and theology, areas where logical principles, methods, or moves helped to shape and advance formulations and responses of theological questions – in the way that, say, a uniquely designed bridle might make an equestrian aware of new opportunities in handling and training a horse. This means that, practically speaking, scholars of medieval logic can be helpful to theologians.<sup>14</sup>

Here I summarize several examples, many from my own areas of research, where appreciating Thomistic theological insights depends on an adequate familiarity with St. Thomas's approach to logic.

*The Trinity and how "God" signifies.* Aquinas asks whether God is the same as his essence or nature (*ST* Ia. q. 3, a. 3). His answer depends partly on the difference between the ways that concrete and abstract terms signify, and so partly on terminology that is as much a matter of logic as metaphysics: "man" signifies the human *nature* insofar as it is individualized in a *suppositum* (that is, still abstracted from, but *without excluding*, its individualized matter); "humanity" signifies that nature with the exclusion of the individualizing matter, so *humanity* and a *man* are not identical. But God and divinity are identical, since there is no difference in God between nature and supposit. Of course, this analysis must be further developed in light of the doctrine of the Trinity, since "God" can signify the divine nature common to three divine Persons, but can also name any of the distinct divine Persons (*ST* Ia. q. 39, a. 4). Cajetan, commenting on

<sup>13</sup> Careful attention to Thomas's pedagogical and rhetorical situation is given by Jordan 1986 and Jordan 2006.

<sup>14</sup> This is something that I think is somewhat less acknowledged by scholars, perhaps because scholars of logic are too humble to presume they can help theology, or because theologians are less likely to be trained to notice, or even want to acknowledge, the significance of medieval logic, or for some other reason.

this, thus distinguishes even more explicitly than Aquinas ways of signifying a nature – and yet scholars unfamiliar with the logical terminology of Cajetan have mistakenly found him making heretical metaphysical claims, as if there could be a divine substance existing apart from the three divine Persons. Only a careful attention to Thomistic realist semantics can prevent such mistaken interpretation (Hochschild 1999).

*The substance of the Eucharist.* In characterizing the transformation of the Eucharist, Thomas Aquinas attends to the truth conditions of the words of consecration, “This is my body.” The notion of “substance” that Aquinas uses, which informs his characterization of “transubstantiation,” is a metaphysical concept, but his analysis depends on features of accidental vs. substantial predication, which could easily be missed by theologians working within a modern logical framework. So, for instance, an analysis of the identity of the consecrated host (“this”) with the body of Christ, not informed by a notion of Aquinas’s realist commitment to the inherence theory of predication, could completely ignore the fact that Aquinas is not only insisting on the *real* presence but also on the *substantial* presence of Christ in the Eucharist – with significant implications for how one interprets Catholic teaching and practice, as well as opportunities for ecumenical dialogue (Hochschild 2014a).

*Essences material and immaterial.* Key metaphysical claims that play into Aquinas’s natural theology include that composite individuals only have essences as members of a species, and so *qua* individuals don’t have essences and cannot be defined; that immaterial substances are identical with their essences; that God’s essence is identical with His being. All of this depends on Aquinas’s notion of form as principle of actuality, which doesn’t fit easily into the Fregean semantic distinction between “objects” and “concepts.” So if one insists on applying a Fregean analysis of predication, claims that for Aquinas are necessary metaphysical discoveries just don’t make sense; they appear not simply false but sophisticated and incoherent. Only if one ventures outside of a Fregean analysis can one consider the alternative, “realist” understanding of the relationship between semantics and metaphysics in which Aquinas’s claims can be understood and evaluated on their own terms (Hochschild 2006).

*Signifying the simple God.* Aquinas teaches that God is simple, perfect, the cause of all other beings, and beyond our proper comprehension. Within Aquinas’s own framework of semantic realism, these are distinct claims, yet all related to each other and to the challenges of knowing and naming God. It is common to invoke “analogy” as the key to divine naming, and yet the metaphysical uniqueness of God leads Aquinas to attribute several peculiarities of language as it applies to God, not all of which come under “analogy.” Attempts to make sense of Aquinas on divine naming that don’t attend to the different semantic distinctions Aquinas applies to the problem thus not only confuse the issue of analogy and fail to appreciate his teaching on divine naming, but obscure Aquinas’s teaching about

divine simplicity and its intrinsic connection to other metaphysical claims about the divine nature (Hochschild 2019).

*Words human and divine.* Aquinas follows a long tradition of treating thought as in some way language-like – a concept is a *verbum mentis*, a “word of the mind (or heart or soul)” – an insight usefully extended to theology, both natural (since God is a divine mind) and revealed (since the second Person of the Trinity is the *Logos*). And yet given the later medieval development by Ockham of a nominalist “theory of mental language,” together with contemporary views of mental language which are rooted in assumptions of mental representationalism, it is tempting to discount Aquinas’s treatment of the *verbum mentis* as only a theological metaphor; but in that case one would miss the extent to which Aquinas does treat thought as having linguistic properties and structure (thoughts are natural “signs” and complex thoughts have semantic compositionality), miss an opportunity to clarify differences between realist and nominalist conceptions of mental language, and underestimate the extent to which Aquinas thinks we can learn about God from human thought (Hochschild 2015).

*Participation and qualified signification.* Aquinas’s most sophisticated argument for the existence of God depends on the real distinction between being and essence, and he was even willing to use what we might regard as the more “Platonic” language of “participation” to describe a metaphysical reality more commonly expressed in Aristotelian terms, that created essences are not identical with their being but have a share in or “participate in” being, while the Creator is identical with its being. Disputes about whether creaturely participation implies the analogy of being and the necessity of a creator identical with its being – as denied by Henry of Ghent but affirmed by Thomas Sutton – turn out to rest on different conceptions of what it means for the significate of a word to be qualified in some way; the properly Thomistic idea of analogy assumes that not every qualification or determination of a term is *specifying* (which narrows and clarifies the signification of an otherwise indeterminate and broadly applicable term) but that some are diminishing or delimiting (which broadens the signification of an otherwise narrowly applicable, pure or unqualified sense of a term) (Klima 2002).

Of the six examples I’ve given, all in some way rest on semantic assumptions about how words signify, which may explain some of the traditional Thomistic insistence on the importance of the conceptual framework of “realism” (not a metaphysical thesis but a semantic theory). Undoubtedly Peter Geach overstepped when he argued that the rejection of realism for nominalism necessarily led to heresy (Geach 1972),<sup>15</sup> but he was correct to worry that theological truths cannot be understood and evaluated without knowledge of the conceptual

<sup>15</sup> The paper originally appeared in *Sophia* 3 (1964): 3–14. Klima 2015 argues that Geach’s too-strong criticism of nominalism is one of his “most inspiring errors.”

framework in which they developed, and that changes in semantic theory could have unintended consequences for theology. Further, Geach was right that if logic is a tool for discovering and articulating truth, then Christian theology, as a gift of revealed truth, provides a unique opportunity for applying and testing logical theories. Geach expressed this in three theses:

- I. If an argument has true premises and a heretical conclusion, then a logical rule that would make it out formally valid is simply a bad bit of logic.
- II. A statement of a logical rule will not be correct if it is vitiated by a theological counter-example; nor, in order to avoid this, will the rule expressly advert to theological propositions.
- III. Whenever a logical form is shown to be invalid by a theological counter-example, we could if we were clever enough construct a non-theological counter-example. (Geach 1972. 299–300.)

What all three rules embody is the total confidence that truth is revealed both by the art of logic and by Christian faith, which means not only that logic is a tool for expounding and defending faith, but that Christian faith is a gift for testing and refining logic.<sup>16</sup>

## VII. CONCLUSION: RECONSTITUTING THE GAME

My attention here to the relation between logic and theology has been in one sense very broad; I have spoken mostly quite generally about my themes and referred to a range of examples. At the same time, my attention has also been very limited; a more comprehensive treatment would address the intellectual and cultural context in greater depth and detail, attending to methods of instruction, genres of texts, modes of expressing and enforcing ecclesiastical authority, the shape and growth of medieval educational institutions, and in general all the cultural conditions of knowledge-making and knowledge-transmission in the Middle Ages.<sup>17</sup> A more comprehensive treatment would also have to explore the ways in which logic, precisely as a fundamental tool for pursuing truth, was for medieval thinkers intrinsically bound up with what would now be considered separate areas of philosophy: philosophy of mind, epistemology, philosophy of science, and of course metaphysics.

<sup>16</sup> On this theme see also Klima 2009 and Hochschild 2014b.

<sup>17</sup> For some of this, see Novikoff 2013, Jordan 1986, and Jordan 2006.

Especially important are questions about the relationship of metaphysics to logic and about the subject matter of logic.<sup>18</sup> Later distinctions between parts or kinds of philosophy sometimes make it difficult to understand how, for instance, Aristotle's *Categories* could be read as both a treatise on metaphysics and as a treatise on logic; for modern interpreters this suggests a tension or confusion, while for medieval thinkers it was perfectly natural, on the assumption that the rules of thought cohere with the structure of reality, and that reflection on basic logical distinctions is preparation for spiritual ascent to first principles.<sup>19</sup> Yet if this ascent is the purpose of life, and all human arts, including logic or dialectic, are to be put to the service of that purpose, it is easy to see how early medieval thinkers would see no need – indeed, would not even consider it a possibility – to isolate the business of logic from the aspiration of union with God. This means that late medieval attempts to develop different kinds of logic, or to reconceive of the project for which logic is a tool, have far reaching consequences not only for philosophy and theology but even for the relationship between faith and reason and the very practice of discourse within the Christian community – even for the very continuity of the Christian community itself.

Indeed, the real weight of my argument here is its practical implications, for scholarship and for Christian witness. It is not enough to catalogue, as a matter of historical fact, that logic, as a tool of theology, shaped and was shaped by theology in the middle ages. Even the best archeologists, digging up an old tool, will try to learn how it was used, and, if it turns out to have a use in an art that is lost, may try to revive the lost art. Or, to switch back to the metaphor of the game, even to document that and how a game was played, we need actually to learn the game, and resume playing it.

In Hesse's novel, the main character masters the Glass Bead Game and becomes its chief authority, the *Magister Ludi* or "Master of the Game."<sup>20</sup> But then (for reasons about which the reader is, I think, meant to feel ambivalent) he turns away from it. The game-master's desire to exercise greater freedom, and his sense of responsibility to the problems of the wider world beyond the game, prompt him to abandon the game and venture beyond the safety and promise of

<sup>18</sup> Miner 2019, which also notes that Parson's *Articulating Medieval Logic* is also silent on the question of the object (what I here called "subject matter") of logic. See also Klima 2014.

<sup>19</sup> See Wear 2014, especially the editors' introduction and the lead essay (Gerson 2014). The interpretation and application of Aristotle's *Categories* was influential in medieval theology and even back to the Church fathers; see Bruun 2005, especially the contributions by Kenny on the Latin Fathers, Frede on the Greek Fathers, de Libera on Boethius, and Marenbon on Eriugena and Anselm. Anselm's *De Grammatico* had a partially theological motivation traced to the semantic realism of Boethius's theological treatises; see Boschung 2006.

<sup>20</sup> In Roman education the teacher of the earliest stage of education, until about age 11, was the *ludi magister*, who came before the teachers for later stages, the *grammaticus* and finally the *rhetor*.

its culture. Soon after, unprepared for a new set of challenges, he dies a premature and accidental death, drowning in a cold lake.

It would be too simplistic to find in that end a metaphor for philosophy in the modern era – as if the philosophical pursuit of truth, once, cultivated within a particular intellectual-spiritual culture of medieval institutions, simply decided to venture outside of the schools and despite good intentions for wider relevance found itself unprepared to sustain a coherent agenda. It is true that theoretical or spiritual activity, cultivated in a particular context of rationality, can quickly become unreason when separated from that context – but the choice of Hesse’s protagonist is too binary: to play the game or not. Imagine instead that he had persuaded a group of people to modify the rules a bit, and created a derivative or parallel game; imagine that some did not notice that this was what was happening, or were not even aware of the extent to which they were modifying the rules of the game. Imagine that as new games developed, it was not always clear whether or to what extent two players were in fact playing the same game – until, of course, the games have proliferated and diverged so much that it becomes harder and harder for them to have anything to do with each other, or even to keep the original game going. And if this happened, would it be adequate if one game, according to its new and different rules, found a way to talk about a lost game, without actually entering into the practice of the original game, which might require one to leave, or at least radically modify, the context of the new game?<sup>21</sup>

If we care about the game that Aquinas was playing, it will not be enough to learn about it and talk about it within some very different game.<sup>22</sup> The study of the relationship between logic and theology in Aquinas, and in medieval thought more generally, is not merely archeological or documentary; it is a practical, participatory project of re-entering into its activity. Medieval logic was a particular kind of intellectual activity which grew and was fostered “from the heart of the Church”; only by relearning that game and teaching it to others can we ensure that the goods of that game continue to be enjoyed, are rediscovered if lost, and can be shared with new players – for their good, and for the greater glory of God.

<sup>21</sup> An example of games about games talking past each other and failing to achieve mutual understanding or rational progress is George Berkeley’s argument with Peter Browne about theological knowledge. Berkeley and Browne appeal to and argue about concepts and distinctions from Cajetan on analogy, yet neither appreciate the function these served in their original context, and the two are not even able to clearly formulate their areas of agreement and disagreement. See Hochschild 2004.

<sup>22</sup> This may require nothing less than “reconceiving the university and the lecture as a genre,” in the words of the title of the last chapter of MacIntyre 1990.

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