DORIT TANAY

NOTING MUSIC, MARKING CULTURE: THE INTELLECTUAL CONTEXT OF RHYTHMIC NOTATION, 1250–1400

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INTRODUCTION

THE RELATIVELY MODEST INTEREST in late-medieval musical thought is probably a reflection of the apparently troublesome and highly technical nature of its subject-matter: note shapes and mensural signs, and their practical value. A lack of intellectual enthusiasm is indeed understandable if the sole target of research into this subject is extraction of practical knowledge from the veil of abstract theoretical language. The discovery of notational rules has long been the driving force behind studies of medieval theoretical sources, which accounts for the divorce of the practical content from the broader, enveloping theoretical discourse. The apparently extraneous and abstract discourse has been deemed unimportant for a musicological narrative on the evolution of music history in general, and of the history of rhythmic notation in particular.

It is true that in their reflections on notational concepts medieval theorists did use a theoretical language that is completely alien to the discourse of contemporary scholars. Medieval definitions of time-units, in terms of processes through which values become endowed with perfection or imperfection or undergo alteration, do not really make sense to us today. A linguistic barrier engenders misunderstanding, and discrepancies between our perception of the content of late-medieval musical thought and the sensibilities, intentions, and meanings that medieval scholars conveyed through their idiomatic figures of thought.

Important recent studies have contributed to our efforts at reconstructing the cultural setting of late-medieval theories. The possibility of penetrating the

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CONFLICTS AND STRATEGIES OF CONCILIATION

Aristotelian Scholasticism and music

IN AN ARTICLE entitled "The influence of Aristotle on French university music texts", Jeremy Yudkin reminds us that "We cannot fully understand the writings of thirteenth-century theorists on music, unless we appreciate the extent to which they incorporate the vocabulary, logical systems, and mode of thought of Aristotelianism."[1] For Yudkin, as for many other scholars, recognition of the Aristotelian resonances behind much of the vocabulary used in thirteenth-century scholarly writing allows us to read these documents with "an eye that is keener and an ear that is more sensitive to the nuances of the text".[2] I agree. Still, to date, the maps of meanings produced by efforts to relate musical theories to Aristotelian philosophy have neither led to new conceptual territories nor generated dramatic new insights.

Yudkin's description of the impact of the Aristotelian method of classification upon the division of musical notions and the organization of musical treatises echoes Lawrence Gushee's analysis of the Aristotelian influence on medieval mensural treatises.[3] Yudkin's particular interest is in identifying the precise

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[1] Jeremy Yudkin, "The influence of Aristotle on French university music texts", in André Barbera (ed.), *Music theory and its sources: antiquity and the Middle Ages* (South Bend, IN: University of Notre Dame Press, 1990), 173–89, at 178. [2] Ibid., 189.

[3] See Lawrence Gushee, "Questions of genre in medieval treatises on music", in Wulf Arlt, Ernst Lichtenhahn, and Hans Oesch (eds.), *Gattungen der Musik in Einzeldarstellungen: Gedenkschrift Leo Schrade* (Bern: Francke, 1973), 365–433. Gushee notes the influence of the Aristotelian idea of hierarchy on the overall organization of the treatises and on their order of presentation,

The primary form is the external shape of the figure, used as a conventional sign of notation. This form is a geometrical figure and is perfect by definition. The secondary form is the essence of that figure, that is, its signification. As I mentioned at the beginning of this chapter, it is the signification that is perfected or imperfected. I believe that Muris' understanding of how signs signify echoed the doctrine of *proprietas terminorum,* since it continues the Franconian tradition in assuming that signs stand for and thus refer to actual things, and in accepting the Franconian semantic operation involving the fusion of the essential *significatio* with contextual interpretation. But Muris proposed a different analogy between music and grammar. To clarify his position, he maintained that there is a structural resemblance between syntactical relations and rhythmical relations:

> Unde sicut vox ad vocem grammatice non dependet neque causat constructionem, sed modorum significandi rerum proportio, sic figurae ad figuram nulla est proportio musicalis, sed ex proportione rerum musicalium perfectioneque et imperfectione earundem causatur consonantia musicalis.[23]

> Hence, just as a word does not depend grammatically on another word, and does not cause the construction, but it is the proportion of [i.e., the relationship between] the modes of signifying things, so there is no musical proportion between a figure and another figure, but musical consonance is caused by the proportion of musical objects and by their perfection and imperfection.

Muris' analogy between the theory of language and the theory of rhythmic notation is vague. He implies that rhythmic notation should be construed not within the semantic theory of the properties of terms, as I suggested earlier, but in light of the grammatical theory of the *modi significandi.* I believe that Muris made a philosophical mistake. Let me first present the theory of the modes of signification and then examine its relevance to rhythmic notation. Muris' proposal, I will argue, needs refinement. Medieval grammar can be made relevant if matched with the notation not of texted music but of non-texted music. In other words, no comparison can be offered between the function of the modes of signification and the Franconian single-note system of notation. Still, medieval speculative grammar may have some bearing on the Franconian procedure of ligatures.

The theory of grammatical modes focused on the syntactical function and meaning as formed by the inflection of words' suffixes or by grammatical inflection.[24] Since a correct reading of ligatures depends on understanding the

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[23] Muris, *Notitia artis musicae,* 91–2.
[24] The following survey is based on Jan Pinborg, "Speculative grammar", in *CHLMP,* 254–70.

Commentator [Averroës], in the basis of nature (that is, in matter) nothing is distinguished. But it is action that distinguishes and separates, as stated in the sixth book of the *Metaphysics*.

Since perfect time and imperfect time are both equally divisible into two or three parts, they must share their essential definition. Therefore, perfect and imperfect time differ not in their form (essence) but in their matter. But according to Aristotle, matter is not the principle of individuation. Thus, Jacobus argued, there is no real distinction between perfect and imperfect time-values.

The problem with this argument is that the issue at stake is the need to distinguish not between two species (say a table and a dog, each of which, according to Aristotle, is defined exclusively through its unique essential form) but between two members of the same species, (say between two men or between two *longae*). Now, according to Aristotle, matter does individualize one individual from another particular of the same species, not the form or essence as Jacobus mistakenly argued.[19]

Jacobus considered the problem of time once again while refuting Muris' theory of time as summarized in his ninth conclusion,[20] according to which "time can be divided into as many equal parts as one wishes (tempus possit dividi in quotlibet partes aequales)".[21] Jacobus countered that there was a distinction between time *per se*, which he regarded as an indefinite matter, a mere potentiality, and the specific time denoted by rhythmic figures. Unlike continuous time as such, rhythmic figures are not indefinite but represent a distinct rhythmic concept and a certain number of time-units. Therefore, musical time or time signified by a rhythmic figure is numbered and discrete.

> Dicendum quod, licet tempus materialiter et absolute sumptum et ut continuum dividi possit in quot volueris partes aequales ut in duas, tres, quattuor, sic ceteris, non tamen ut per notulas significatur musicas, ut saepe dictum est. Aliter enim est divisibile ut per longam signatur perfectam, aliter ut per imperfectam. Important enim notulae quaelibet determinatas temporis morulas et in hoc inter se distinguuntur, licet in hoc generaliter conveniant quod tempus important ad modum quo annus, mensis, dies, quadrans, hora, momentum, uncia, atomus.
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> Item notulae musicae non videntur tempus pure continuum importare

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[19] My interpretation follows Franco's explanation, according to which the species of the longa has three varieties—perfect, imperfect, and duplex. Thus, the perfect longa and the imperfect one are not two distinct species. See above, p. 36, where I argue that theorists regarded the property of imperfection as an accidental quality of an essentially perfect figure.

[20] For analysis of the methodology that underlies Muris' conclusions and on the methodological and formal resemblance between Muris' *Notitia artis musicae* and other mathematical treatises, see below, pp. 186–7. For Jacobus' arguments against the first eight conclusions, see below, pp. 169–78.　　　　　　　　　　　　　　[21] Muris, *Notitia artis musicae*, 87.

are too often overlooked in current musicological research. The modal categories referred to by these key words — "necessity", "possibility", and "contingency" — were so dominant in the various discourses of the fourteenth century that they can justly be called epoch-making. Analyses of these notions were at the heart of fourteenth-century Scholasticism, and they were applied to almost all the scientific disciplines: theology, mathematics, physics, metaphysics, logic, and (as I intend to show) to the seemingly unrelated field of music as well. Why were these modal categories so important in all these disciplines? Because they expressed the content, the scope, and the limits of "necessity" and "possibility" not only with respect to God's will, his omnipotence, and his creation or action, but also with respect to what is necessary and what is possible in the phenomenal world and in our understanding of both.

Returning to Muris' maxim, "Everything that is uttered singing with a normal, whole, and regular voice, the knowledgeable musician must write by appropriate notes", it seems that Muris was exploring the content of "possibility" as it might apply to rhythmic performance, rhythmic notation, and the relation between the two. The reification of modal categories (the categories of necessity and possibility, whether divine or mundane) and the rigorous attempts to invest with exact and exhaustive meaning the notion of possibility were among the most conspicuous themes in fourteenth-century thought. They recurred everywhere. These investigations of necessity and possibility were inseparable from the equally conspicuous and all-pervasive investigations of continuity and infinity. Both these pairs of categories were employed to consider God's infinite power. It is God's infinity that needed reification by excogitating any number of possible worlds that he could have created, *de potentia Dei absoluta.*

The notion of possibility was as central to Johannes de Muris' *Ars nova* as it was to the contemporaneous theological search for the scope and limits of the *ars divina.* Muris and some of his followers, I shall argue, considered an entire range of logical possibilities, rather than limiting their investigations to actual arrangements in actual compositions. The various rhythms about which they theorized were all conceivable, of course, and possible in practice. But their consideration was at first entirely divorced from the musical reality of their time. I will consider these striking findings in some detail below. First, however, let us turn our attention to the extensive experimentation with the notion of "possibility" and to the far-reaching results of these endeavors, of which, I think, the innovations in music theory are a special case.

Potentia Dei absoluta *in the intellectual space of the fourteenth century*

Questions about the extent of God's omnipotence and its implications had, since the beginnings of Scholasticism, the potential to foment hot debates and

precisely as I can, by calling attention to early prototypes of modern ways of thinking that emerged in the theological and philosophical thought of the fourteenth century. While these trends do figure in many recent intellectual histories of the age, they have not so far been considered in relation to the musical movement of the *Ars nova*. Above all I want to emphasize "the bridging of the distance between the sacred and the profane: one could say the elimination of the ontological opposition, contrast and gap between the sacred and the profane".[6]

This theme requires a refinement and redefinition of claims for a radical divide between faith and reason in late-medieval thought. In any case it runs counter to the view of late-medieval thought as being too confused, casuistical, idiosyncratic, and detached from real life to be considered as a significant creative force of the time. Moreover it is a complex and highly-loaded theme: it concerns not only the relations between God, nature, and man but also reflects a growing disenchantment with fashioning categorical oppositions outside theology and inside specific bodies of knowledge. Or perhaps conversely, the very tendency to dismiss categorical oppositions reflects a shift in the understanding of the relation between the sacred and the secular. Particularly important are the new fourteenth-century definitions of beauty, harmony, and perfection that emerged out of the *rapprochement* between concepts denoting order and disorder. The revision of these basic categories, as we shall see shortly, had a remarkable effect on cosmology, astronomy, and music. The new idea of beauty admitted the presence of some kind of irregularity and instability. Even infinite magnitudes and similar "irrational" notions ceased to be seen as absolute contradictions-in-terms or category-mistakes. The new ideals of beauty and perfection that emerged in the fourteenth century were in part a product of this change in the substance and ideal of mathematics itself.

We shall follow, then, two parallel and closely related developments of the fourteenth century. The first is the elimination of the conceptual opposition between the sacred and the secular, perfection and imperfection, harmony and disharmony, regularity and irregularity, rationality and irrationality, stability and motion, and the like. The second development is the nascent glorification of humanity and the increasing emphasis upon the dignity of mankind, which were direct consequences of the elimination of the absolute opposition between the sacred and the profane.[7] These developments did not add up to outright secularization, in the sense of indifference towards and neglect of religious duty. To identify them with secularization is to miss the crucial role played by

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[6] Oberman, "The shape of late medieval thought", 11.

[7] Ibid., 11–15. On Nominalist theology and its significance for the emergence of the early-modern man I follow in particular this work of Oberman's and his "Some notes on the theology of Nominalism".