

THE INDICATIVE MOOD: A RESPONSE TO MARGARET BENT

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WHILE JACOBUS'S 'MODERNS' (*moderni*) may have been the same people who were composing motets and beginning to formulate innovative theoretical concepts in the 1320s, to conflate all the musical activities of the individuals Jacobus calls 'the moderns' with the phenomenon of the 'ars nova', as Margaret Bent's recent review in this journal does, is not something that my book *Music and the moderni* explicitly proposes.¹

Instead, what I argue in *Music and the moderni* is that the *ars nova* that the moderns finally devised, and which they almost certainly loudly congratulated themselves for (to the chagrin of Jacobus),² is a new technique for notating mensural music that encompassed a key concept: that the breve holds the same relationship to the semibreve and the semibreve to the minim as the long holds to the breve.³ In basic terms of the visual appearance of the notation this means that you will find solitary semibreves, minims with ascending stems and minim rests (both pairs of minims/minim rests and solitary minims/minim rests), and dots used in new and different ways.⁴ I also suggest in chapter 5 of *Music and the moderni* that the theorization of *ars nova* notation by Jean des Murs and Philippe de Vitry prompted a fundamental shift in how musical time was conceptualized, in that it enabled a move from regular cycles or circles of predictable mensural units to a linear or additive organization of musical time.⁵ The notational technique of *ars nova* solved a key ambiguity of Franconian and extended Franconian notations that had evidently become critical, since with the Franconian system it could not be clearly indicated whether the breve was binary or ternary. I propose that once the new notational technique (*ars nova*) had been conceptualized, worked out, and then 'descended' into practice through regular use by scribes, composers, and singers, it changed the sound of French fourteenth-century music, and in this way it was revolutionary. To use a pertinent term invoked by Anna Zayaruznaya, the *ars nova* notational technique encompassed certain affordances that with their adoption expanded compositional possibilities: one of these affordances that I explore in chapter 6 of *Music and the moderni* is the moderns' new use

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¹ Margaret Bent, 'Artes Novae', *Music & Letters*, 103 (2022), 729–52.

² 'Ipsi novi novas conclusiones in musica mensurabili invenisse se laetantur'; *Jacobi Leodiensis Speculum musicae*, ed. Roger Bragard, *Corpus scriptorum de musica*, 3 (Rome: American Institute of Musicology, 1955–73), 7, p. 6; 'Those newcomers congratulate themselves on having found out new conclusions on mensurable music'; Jacobus de Ispania, *The Mirror of Music: Book the Seventh*, trans. Rob C. Wegman (Lexington, KY, 2017), 6.

³ Karen Desmond, *Music and the moderni, 1300–1350: The Ars Nova in Theory and Practice* (Cambridge: Cambridge University Press, 2018), 141–5.

⁴ On solitary semibreves see Desmond, "'One is the loneliest number ...': The Semibreve Stands Alone', *Early Music*, 46 (2018), 403–16; on minims and minim rests see Desmond, 'Traces of Revision in Machaut's Motet *Bone pastor*', in Lawrence Earp and Jared C. Hartt (eds.), *Poetry, Music, and Art in Guillaume de Machaut's Earliest Manuscript (BnF fr. 1586)* (Turnhout, 2021), 397–432 at 414–15; on the new use of the dot, see Desmond, *Music and the moderni*, ch. 6.

⁵ Desmond, *Music and the moderni*, chs. 5 and 6.

of the dot; another is the possibility of imperfection by a remote part (detailed in chapter 4 of *Music and the moderni*).⁶

Chronology comes into play in trying to figure out that moment in time when the *ars nova* notational technique was established and stable enough to be drawn on by multiple composers in their compositional processes, to be used by scribes in the expensive and laborious process of copying compositions into manuscripts, and to have elicited such a strong reaction from Jacobus, when he observed that *ars nova* had gained enough of a foothold to warrant a treatise-length response. One might imagine a certain reluctance and a time lag in the adoption of a new technology (no one wants to invest significant time, money, or cultural capital in the next MySpace): this gradual adoption of *ars nova* required manuals that described how the new notation related to the old notation, and which, crucially for scribes, outlined how one might translate and copy popular compositions conceived and copied in the old notation into the new notation (hence the proliferation of witnesses to the Vitriacan *Ars vetus et nova*, and the presence of compositions copied in the older Franconian and extended Franconian styles of notation in the *Roman de Fauvel*, which in later sources are upgraded into *ars nova* notation).⁷ Evidence also exists that some compositions extant today only in sources copied in *ars nova* notation were apparently originally conceived in extended Franconian notation (this includes compositions such as Vitry's *Colla/Bona*, and works by Machaut including Motet 11, and possibly a version of Motet 18, *Bone pastor*).⁸

Jacobus's *Speculum musicae*, Book 7 (hereafter *SM* 7) is a primary source for our knowledge of the fourteenth-century distinction between the old and new 'artes' of mensural music, at least from Jacobus's perspective. That perspective was prompted by the moderns' articulation of a new technique (*ars nova*) of music notation distinct from the old technique (*ars vetus*), an articulation also disseminated in a treatise I have hypothesized was written by Philippe de Vitry (the *Ars vetus et nova*), and many witnesses to it throughout the fourteenth century.⁹ In *Music and the moderni* I proposed that *ars nova* as Jacobus understood it was not the 'collection of stylistic and structural features' present in the motets of the *Roman de Fauvel*. Instead, I intended 'through a narrow focus on the specific *ars nova* techniques described in the treatises of Jacobus, Des Murs, and the Vitriacan *Ars nova* witnesses, and their occurrence within compositions of the first half of the fourteenth century' to 'avoid the pitfalls of subjective stylistic judgements of what appears (to twenty-first-century ears) to be new or innovative, and steer clear of a chronology and an understanding of the *ars nova* that is based on received historiographical narratives of stylistic development'.¹⁰ To be clear: I believe it is unproductive to use the term *ars nova* to fit subjective criteria about a 'new art' of composition that we apply when we think

⁶ For Anna Zayaruznaya on affordances, see *The Making of Philippe de Vitry*, ch. 4, 'Becoming New' (forthcoming). Zayaruznaya presented this work in progress at the workshop 'Exploring the Listener's Experience of Late Medieval Music', Brandeis University, Nov. 2019.

⁷ Desmond, 'Did Vitry Write an *Ars vetus et nova*?', *Journal of Musicology*, 32 (2015), 441–93.

⁸ For the arguments regarding the updating of Vitry's *Colla/Bona* into *ars nova* notation, see Desmond, "'One is the loneliest number'", 406–7; on the updating of Machaut's *Bone pastor*, including new proposals for its dating no earlier than the early 1330s, see Desmond, 'Traces of Revision'. On Elizabeth Keitel's proposals regarding the 'Petronian' notation of M11, see Desmond, *ibid.* 429, referencing Keitel, 'A Chronology of the Compositions of Guillaume de Machaut Based on a Study of Fascicle-Manuscript Structure in the Larger Manuscripts' (PhD diss., Cornell University, 1976), 100–2. See also Lawrence Earp, 'Scribal Practice, Manuscript Production and the Transmission of Music in Late Medieval France: The Manuscripts of Guillaume de Machaut' (PhD diss., Princeton University, 1983), 308–10, and 326, on notational inconsistencies and emendation in the copies of some of Machaut's virelais and lais respectively.

⁹ Desmond, 'Did Vitry Write an *Ars vetus et nova*?'.

¹⁰ Desmond, *Music and the moderni*, 16.

composers were being innovative in composing certain motets of the *Roman de Fauvel*; as I point out in the introduction to *Music and the moderni*, composers, musicians, and scribes are perpetually innovating.¹¹ And, it is also not about whether *Tribum/Quoniam* is a great piece.¹² Instead, *ars nova* more properly applies—as Jacobus applied it—to specific notational objects and principles that may have had consequential musico-stylistic affordances but that can be shown to be present (or not) in the visual notational trace.

The hypothesis I proposed for the chronology for *ars nova* is built on multiple pieces of evidence—observable data present in the extant sources, reported on, analysed, and interpreted in *Music and the moderni* and several articles. I believe that the weight of the observable evidence supports the hypotheses I laid out in *Music and the moderni*, and that the hypotheses I present offer greater explanatory power for the phenomenon of *ars nova*: namely that the self-fashioning by the moderni of their new notational technique as an ‘ars nova’ was probably a phenomenon of the 1330s (that is, its ‘naming’ as such), and that Jacobus completed Book 7 of his *Speculum musicae*, which describes an established notational *ars nova*, no earlier than the 1330s. I hypothesize that a period of innovative thinking by the moderni during the 1320s preceded this, in particular by Des Murs, whose earliest treatise on music that outlines new mensural theories was written in 1319, but that the specific practical details of the notation, and its logical systematization, only fully crystallized from c.1330, when the moderni then had the confidence (or from Jacobus’s perspective, the temerity) to name their new way of notating music an ‘ars nova’, and to push for its adoption across the board, by singers, scribes, and composers.

By contrast, Bent’s counter-arguments to the hypotheses presented in *Music and the moderni* primarily rely on her acceptance of a new hypothesis advanced by Elżbieta Witkowska-Zaremba on the dating of all of the music theory treatises by Des Murs that Jacobus cited to the years 1319–23,¹³ and on her own acceptance, assertion, and repetition of other dates and date ranges that have questionable factual support.

Witkowska-Zaremba’s hypothesis needs closer examination in this regard. In chapters 6 to 8 of *Speculum musicae* Book 7, Jacobus discusses at length the status of the consonance of the fourth when found within a three-part sonority. In chapter 6, he includes a lengthy quotation from ‘quidam modernus doctor in quodam opere de abbreviatione musicae Boethii’ that turns out to be Des Murs’s *Musica speculativa*. In this treatise, Des Murs argues that, in a three-part vertical sonority, when there is an octave between the lowest and uppermost voice, the interval of a fourth made by the middle voice is consonant only when it is made below the upper voice (and not above the lower voice). That is, it is consonant when the fourth is placed above a fifth (for example C–G–c), but not when the fourth is below a fifth (for example, C–F–c).¹⁴ Witkowska-Zaremba claims that Jacobus’s source for the quotation from Des Murs was version A of *Musica speculativa*, which is

¹¹ Ibid.

¹² Bent, ‘*Artes novae*’, 745–7, takes particular issue with what she perceives as my negative opinion of *Tribum/Quoniam*. I had hoped that my analysis showed how the sparse, open, direct, and oppositional style of *Tribum/Quoniam* is a fascinating musical representation of its polemical texts (summarized in *Music and the moderni*, 64).

¹³ Elżbieta Witkowska-Zaremba, ‘Johannes de Muris’s *Musica speculativa* Cited by Jacobus de Ispania’, *Plainsong and Medieval Music*, 31 (2022), 37–63.

¹⁴ As outlined by Witkowska-Zaremba, Des Murs’s deduction relies on the Pythagorean claim that the eleventh was an inferior consonance, and within the interval of an eleventh, if the fourth is placed below the octave (for example, C–F–f), that fourth is not consonant, and so implicitly a fourth placed below a fifth but within the octave (C–F–c) was similarly an inferior consonance. Ibid. 43.

thought to date from 1323.¹⁵ Her claim rests on the presence of the preposition ‘sub’ in Jacobus’s text and *Musica speculativa* version A, and the preposition ‘super’ in *Musica speculativa* version B, thought to date from 1325.¹⁶

This preposition (‘sub’) does indeed seem to have been used in error in *Musica speculativa* version A in the phrase ‘sub dyapason’, which is incongruous within the arguments Des Murs had made thus far in his treatise, and even makes little sense within the context of this specific sentence (because a fourth placed *under* the octave (C–F–f) cannot be understood similarly (*similiter*) as a fourth ‘placed under a fifth’, since a fourth is *not* placed under a fifth here). Jacobus characteristically seized on this error in his *Speculum musicae*. The phrase was corrected to ‘super dyapason’ (C–c–f) in version B of *Musica speculativa*.¹⁷ I have used the passive voice deliberately here because the agent of this correction is unknown. Witkowska-Zaremba’s hypothesis is that Des Murs made this correction *in response* to reading Book 7 of Jacobus’s *Speculum musicae*, and thus that *Speculum musicae* Book 7 pre-dates version B of *Musica speculativa* (1325): she writes that ‘Jacobus’s critical comments are the *only* explanation for the introduction of this emendation’ (emphasis mine). I would suggest that there could be several explanations for this emendation: for example, it could have been a scribal error in the transmission of version A that was fixed in version B; it could have been an authorial ‘typo’ in version A, the blatant error of which Des Murs himself realized and self-corrected when he wrote up version B; or the error could indeed have been pointed out to him by someone else, perhaps even by Jacobus. But even this last hypothetical scenario does not necessitate that Jacobus completed the writing of *Speculum musicae* Book 7 *before* Des Murs wrote version B in 1325.

In addition to this, since Jacobus refers to his discussion of this passage of Des Murs’s *Musica speculativa* as an ‘incidental digression’ (end of ch. 8), and follows these chapters with a discussion of material from Des Murs’s *Compendium*, Witkowska-Zaremba makes the dubious inference that therefore ‘Jacobus became familiar with it [*Compendium*] before he read *Musica speculativa*’.¹⁸ This may or may not be the case. More troubling is the next leap that Witkowska-Zaremba makes. Since she claims that Jacobus knew a copy of *Musica speculativa* (version A) that was earlier and superior to any copy of version A extant today (which is probably true, since the earliest extant copies of *Musica speculativa* date from c.1350 or later), she then asserts that that *Compendium* must therefore date from ‘before 1323’ (the date of *Musica speculativa* version A).¹⁹ The order in which Jacobus

¹⁵ Ibid. 44–8. Two manuscripts have explicits dating version A of *Musica speculativa* to 1323, while three manuscripts of version B have an explicit with the date 1325.

¹⁶ In Jacobus (*SM* 7, ch. 7), the passage is ‘concessum erit diatessaron ante dyapente non esse consonanciam, quare neque **sub dyapason**, cum etiam ibi diatessaron sub dyapente ponatur’ (it will be conceded that a fourth before a fifth is not a consonance, hence nor [is it a consonance] under the octave, since also in that place is a fourth placed under a fifth), where the end of that phrase in version A of *Musica speculativa* has ‘quare neque **sub, alibi supra, dyapason**, cum ibi similiter dyatessaron sub dyapente ponatur’ (hence nor [is it a consonance] under (elsewhere above) the octave, since in that place similarly a fourth is placed under a fifth) and version B has ‘quare neque et **super dyapason**, cum ibi similiter dyatessaron sub dyapente poneretur’ (hence nor [is it a consonance] above the octave, since in that place similarly a fourth will be placed under a fifth). (I have slightly modified the translation given by Witkowska-Zaremba, 45; bold emphasis in the Latin is in Witkowska-Zaremba. She transcribed the Jacobus passage from the BnF lat. 7207 manuscript of *SM*, explaining that Bragard had introduced emendations here; *ibid.* 44.)

¹⁷ The upper fourth ‘c–f’ is implicitly understood as being under (before) through a principle Des Murs termed *reiteration*. Witkowska-Zaremba explains this: ‘In other words, the fourth above the octave is the same as the fourth within the octave (counting from its lowest note): in both cases it is positioned under the fifth and as such is not a consonance’ (*ibid.* 47).

¹⁸ Ibid. 54.

¹⁹ Ibid. In ‘*Artes novae*’ Bent asserts that Witkowska-Zaremba ‘gives a solid and subtle textual demonstration that Jacobus knew the *Compendium* before he read the 1323 *Musica speculativa*’ (736). *Pace* Bent, Witkowska-Zaremba’s demonstration consists of a single paragraph (53–4), whose only argument is reserved for the last three sentences of that paragraph, quoted in full here: ‘This categorises the question of “diatessaron ante diapente” from *Musica speculativa* as “incidental

cited treatises does not necessarily have anything to do with when he became familiar with those treatises. And it certainly has nothing to do with when the author of the cited treatise, that is, Des Murs, actually wrote those treatises. That Jacobus continues a discussion of the *Compendium* and characterizes his treatment of the *Musica speculativa* passage as an incidental digression to that discussion in no way implies that Jean des Murs wrote the *Compendium* before *Musica speculativa* version A (dated 1323).

Nonetheless, Bent accepts Witkowska-Zaremba's claims on the dating of *Speculum musicae* (finished between 1323 and 1325) and the *Compendium* (1322). She writes: 'All the Muris treatises he quoted are now datable to 1319–23' (*Artes novae*, 736); 'Witkowska-Zaremba finds that both date from before 1323' (*Artes novae*, 738); 'The works of Muris cited by Jacobus are datable to 1319–23' (*Artes novae*, 750; italics mine). These claims seem overstated because these treatises are not firmly datable: these datings are hypotheses offered by Witkowska-Zaremba (on the *Compendium*) and Bent (on the *Notitia* together with the *Conclusiones*). For *Notitia*, Bent reverts to Heinrich Bessler's interpretation of a phrase Des Murs included in an arithmetical treatise (his *Canones tabule tabularum*) as a reference to a specific music theory treatise (the treatise that Michels published as *Notitia artis musicae*,²⁰ but this phrase is not used as a title or as the incipit for this treatise, which begins 'Princeps philosophorum Aristotelis'): as I analyse in detail in *Music and the moderni*, *pace* Bessler and Michels, we cannot assume that this passage refers to the composition date of any specific music treatise.²¹

Bent's review asserts the factual status of what are actually hypotheses that support her view of the *ars nova*. Many statements in her review, including those on Witkowska-Zaremba's hypotheses in the paragraph above, are written in the indicative mood as if they were proven facts, when instead they are opinions that are often supported only by circular reasoning, built either on Witkowska-Zaremba's hypotheses or unsupported claims that certain compositions or manuscripts date from the 1320s.²²

In *Music and the moderni*, when I present a hypothesis I strive to frame it as a hypothesis: I use the conditional mood, often present multiple explanations for phenomena, frequently insert terms such as 'possibly, maybe, perhaps', and acknowledge what we do not know.²³ In dealing with a period of musical history for which there are so many

digressio", while the *Compendium* stands within the framework of the earlier conceived "propositum". That the *Compendium* holds this position is an indication that Jacobus became familiar with it before he read *Musica speculativa*. Assuming some kind of personal contact between Jacobus and de Muris, this suggests that Muris's *Compendium* was written earlier than his *Musica speculativa*' (Witkowska-Zaremba, 'Johannes de Muris's *Musica speculativa*', 54).

²⁰ 'Artes novae', 733.

²¹ See the section 'The Year 1321', in *Music and the moderni*, 85–90. Witkowska-Zaremba does not provide any evidence for the date of 1321 she gives for *Notitia* (including the *Conclusiones*) in the penultimate paragraph of her article, and without further discussion reinstates Michels's 1321 date for this work (Witkowska-Zaremba, 'Johannes de Muris's *Musica speculativa*', 55). She does not engage with this or other arguments I put forward for the dating of *Notitia*, the *Conclusiones*, and *Compendium* (*Music and the moderni*, 31–3, 100–2, and Desmond, 'Jean des Murs and the Three *Libelli* on Music in BnF lat. 7378A: A Preliminary Report', *Erudition and the Republic of Letters*, 4 (2019), 40–63).

²² Some examples of this sort of circular reasoning with regard to dates include the following: 'It [*Compendium*] is usually dated c.1322, and its teachings offer no reason for it to be much later' (734–5); 'the explicitly *ars nova* teachings recoverable from the "nova" section of Vitry's putative *Ars vetus et nova* seem to reflect practices of the years around 1320' (737); 'it [*Douce/Garison*] is mentioned in early treatises and must date from the early 1320s' (743).

²³ For example: 'As to the timeline of these events, the following hypothesis is offered. . . . At what date the *Conclusiones* or the exemplar for the Vitriacan witnesses were written is unclear, but it seems possible that they post-date by more than a few years the compilation of **Fauv** and Des Murs's completion of *Notitia* book 2: perhaps the *Conclusiones* were written in the mid-to-late 1320s' (*Music and the moderni*, 157). This hypothesis is presented after an analysis of the theory in *Notitia* and the Vitriacan treatises and the tabulation of these characteristics in motets of c.1320–50 offered in support of this hypothesis (in chs. 3 and 4).

unknowns, including unknown numbers of missing sources, I have tried to be deliberate with how I articulate my thoughts on chronology. I have preferred to provide relative chronologies (rather than focusing on specific dates), an approach I believe better accommodates new evidence or hypotheses that may emerge in future scholarship. There indeed are a few dates (fixed points), however, that we know with some certainty (I have discussed these at length in my publications, and have listed some important ones as bullet points in the Appendix to this response for ease of reference). None of these fixed points establish *ars nova* in the 1320s, but instead, I believe, support the hypothesis of its establishment in the 1330s. I have presented certain hypotheses on chronology, taking into account these fixed points, and analysing the contents of, and relationships between, the theory treatises and music compositions (some of these hypotheses on Des Murs's treatises are also listed at the end of the Appendix below).²⁴

Because I have deliberately taken great care when I do include dates in my writings, it is quite jarring to encounter multiple instances in Bent's review asserting that I assigned certain dates to treatises or music compositions when I did not.²⁵ Bent also repeatedly mischaracterizes how I describe *ars nova*,²⁶ and findings that contradict her hypotheses are ignored.²⁷ The review offers a focused but narrow consideration purely of chronological questions while not engaging with any of my lengthy analyses of music or music theory—analyses that constitute the primary focus of *Music and the moderni*.

With my use of the conditional mood, nuance, and what some might characterize as hedging, I do not want to close down possibilities for *ars nova*, I want to open them up. The arguments I present in *Music and the moderni* were intended to broaden the possibilities for our understandings of music theory and practice in the first half of the fourteenth century by accurately accounting for what we do and do not know, and for the specific use of the term *ars nova* during this period. Yes, it was conceived first as a notational technique, developed to accommodate the radical conceptual shift proposed

²⁴ Neither Bent nor Witkowska-Zaremba engaged with the hypotheses I present regarding the three *libelli* of BnF lat. 7378A in any serious way (namely the possible authorship of the three *libelli* by Des Murs, and the textual and conceptual relationship of the second *libellus*, whose composition I have dated to between c.1326 and c.1330, to Des Murs's *Compendium* and the *Conclusiones*). Bent cites the article, but simply writes: 'I do not think sufficient textual evidence has yet been presented that the *Compendium* must post-date the *libelli*' (*Artes novae*, 735) without discussing what is insufficient about the textual evidence that I have presented (the textual and conceptual relationships between the treatises are analysed in 'Three *Libelli*', 52–7).

²⁵ For example: 'Desmond puts both *Omni desideranti* and the *Libellus* at c.1340 or after' (*Artes novae*, 731). The page numbers from *Music and the moderni* cited in the footnote attached to this sentence do not include any datings for these treatises, and I do not give dates for them in *Music and the moderni*, beyond stating that the *Libellus* is 'thought to have been written around the middle of the fourteenth century' (*Music and the moderni*, 27). In reference to Vitry's *Ars vetus et nova*, Bent writes: 'That brings us to Vitry, for whose partly reconstructed treatise Desmond inclines to a date in the 1330s' (*Artes novae*, 737); 'She [Desmond] accordingly dates the *Ars vetus et nova* before 1340, a later *terminus ante quem* than her 1330s dating of *SM 7* which quotes from it' (731 n. 10); and 'If the surviving witnesses are excerpted from a preceding *Ars vetus et nova*, that too must pre-date them, earlier and more precisely than Desmond's "before 1340". She places Vitry's ancestor text a decade later, in the late 1320s or early 1330s, the extant digests presumably later still, and Jacobus's *SM 7* (which quotes from them) after that' (737). There is no footnote attached to the quotation 'before 1340' and this phrase is not in my text. The following sentence has a footnote referencing p. 34 of *Music and the moderni*, which does not have the phrase 'before 1340'. While I do give a date of c.1330 or later for *SM 7*, in *Music and the moderni* I do not give a specific date for the *Ars vetus et nova*, and I also do not argue that Jacobus is quoting from the digests, but rather from the ancestor text: 'All we know is that the lost *Ars vetus et nova* of the *doctor modernus* pre-dates *Speculum musicae*. And it is of course possible that some or all of the compendious type 2 incarnations of this text in the extant Vitriacan witnesses may in fact post-date *Speculum musicae*' (*Music and the moderni*, 28).

²⁶ For example in her twice-stated claim that I consider *ars nova* to be characterized by the presence of minim stems (pp. 739, 743). Rather, I posit that *ars nova* is a notational technique that 'extended the rules of perfection, imperfection, and alteration to each mensural level' (*Music and the moderni*, 147).

²⁷ For example, my discussion of the *Canones* passage (see p. 118 above), or my hypotheses on the three *libelli* (see n. 24 above).

for the measurement of musical time by Jean des Murs, but the possibilities afforded by this notational technique went on to have profound impacts on music's sounding reality, and for the future trajectory of western European music (and which made the sound world of *Apta/Flos* so different from *Tribum/Quoniam*). It is problematic when Bent makes statements in the authoritative indicative mood, such as 'The works of Muris cited by Jacobus are datable to 1319–23',²⁸ when neither she nor Witkowska-Zaremba have engaged seriously with the supporting arguments for my hypotheses on dating, and are both essentially relying on the substitution of a single word —'super' for the word 'sub'—shakily to restack Michels's entire house-of-cards dating of all of these major works of music theory.²⁹ Instead, I would propose that we still do not yet fully understand the complexity of Jean des Murs's compositional processes (and the complicated manuscript transmission of his treatises) during the period that he worked out his ideas on mensural music theory,³⁰ and that the current evidence supports a more expansive timeline for both the generation and the dissemination of his revolutionary theories.

APPENDIX

Observable facts present in the extant sources that relate to questions of chronology:

- *Notitia* bk. 2 and the *Conclusiones* were written separately (*Music and the moderni*, 28–31);
- *Notitia* bk. 2 and the *Conclusiones* have different aims and content, with the *Conclusiones* more focused on notational practice (*Music and the moderni*, 99–114);
- Jean des Murs played fast and loose with dates in his works of astronomy, dating several astronomical tables to 1321 even though they were not composed in that year;³¹
- the manuscript of the interpolated *Roman de Fauvel* (BnF f. fr. 146), which was copied c.1317–22, is not copied in *ars nova* notation;
- multiple extant manuscripts of polyphony that date from the first half of the fourteenth century continue to use Franconian and extended Franconian notations;³²

²⁸ Bent, 'Artes novae', 750.

²⁹ Bent's and Witkowska-Zaremba's dates are the same as those proposed by Ulrich Michels in 1970 (Michels, *Die Musiktraktate des Johannes de Muris*, Beihefte zum Archiv für Musikwissenschaft, 8 [Wiesbaden, 1970], 54–5). They propose that Jacobus's and Jean des Murs's treatises (including the writing of a seven-volume encyclopedia on music) were done and dusted in a few short years (1319–25). On Michels's house of cards, see Desmond, 'New Light on Jacobus, Author of *Speculum musicae*', *Plainsong and Medieval Music*, 9 (2000), 19–40 at 35 n. 64. On the problems with Michels's (and Emanuelle Poulle's) datings of Des Murs's treatises in music, mathematics, and astronomy, see Desmond, *Music and the moderni*, 85–102, and the Works List I present as Appendix 6, pp. 259–61.

³⁰ 'While many aspects of the transmission of Jean des Murs's writings on music theory are bound up with interests and choice of a particular scribe in a particular time and place, and are not all reflective of their immediate exemplars, I would argue that the extant manuscripts of Jean des Murs's music writings also betray aspects of his compositional processes and working methods, and the likelihood that his notational theories were also developed over a number of years (and not, as previous historiographical narratives posit, within a burst of activity around 1321)' (Desmond, 'Three Libelli', 63).

³¹ For Des Murs and the year 1321 see Desmond, *Music and the moderni*, 85–90, and C. Philipp E. Nothaft: 'This holds true in particular for his contributions to computational astronomy in the guise of various tables, which he typically cast for a start in 1321, regardless of their actual year of composition' (Nothaft et al., 'Jean des Murs's Quadrivial Pursuits', *Eruition and the Republic of Letters*, 4 (2019), 1–12 at 8).

³² For example, in addition to BnF f. fr. 146, the eighth fascicle of the Montpellier codex and the Turin and Las Huelgas codices are all notated in Franconian notation and are dated in the first half of the fourteenth century. A significant number of insular fragmentary polyphonic sources in Franconian notation also date from the first half of the fourteenth century, including fifteen manuscripts copied in extended Franconian notation (Desmond, 'Tempus, Tempo, and Insular Semibreves', in Jared C. Hartt, Tamsyn Mahoney-Steel, and Benjamin Albritton (eds.), *Manuscripts, Music, Machaut: Essays in Honor of Lawrence Earp* (Turnhout, forthcoming 2022)).

- the central Parisian source BnF fr. 571, convincingly dated by Andrew Wathey to 1326, does not use *ars nova* notation;³³
- Handlo, writing in 1326, does not report any *ars nova* notational techniques, including no mention of the minim rest;
- no extant sources have *ars nova* notation until the Machaut manuscripts (*pace* Bent, ‘*Artes novae*’ p. 743, who claims BnF n.a.f. 934 is datable no later than the early 1320s but gives no evidence for this dating; the complete absence of sources suggests a time of upheaval in the composition and copying of mensural polyphony);
- Jacobus reports that the minim stem is now consistently used by the moderns (*Music and the moderni*, 140);
- Jacobus states that if stems are to be used within groups of semibreves it is preferable to use a descending stem (as is found in some Fauvel compositions);³⁴
- Heinrich Eger von Kalkar writes that these new rules for notating music were devised around the year 1330 (*Music and the moderni*, 5–6, citing scholarship of Hüschen, Rico, and Kügler);
- *Vos/Gratissima*’s tenor (by Vitry) I have now shown to be of interest to Des Murs during or some time after 1330 (*Music and the moderni*, 198–9);
- the first securely datable compositions (on external evidence) that were probably composed using *ars nova* notation are *Mon chant/Qui* of 1337 and *Petre/Lugentium* of 1342 (*Music and the moderni*, 157–8, relying on the datings, based on external evidence, of Yolanda Plumley and Wathey respectively);³⁵
- the entire organization and subject matter of Machaut’s *Remede* contrasts the new manner of singing and notating with the old manner; *Remede* was written in the 1340s, indicating that this distinction between the old and new notational technique was still relevant in the 1340s;³⁶
- the Vitriacan witnesses, including the *Omni desideranti*, all use the term *ars nova* to describe a notation that asserts the equivalence of the long–breve, breve–semibreve, and semibreve–minim relationships, and describes the old technique (of the *veteri*) as groups of semibreves, separated by dots, to be interpreted according to certain fixed patterns (what I termed modal semibreves in chapter 4 of *Music and the moderni*, following Roesner’s use of the term ‘modal patterns’).³⁷

My hypotheses on the chronology of Jean des Murs’s treatises on mensural music:

- based on a reading of their content, an analysis of their manuscript transmission, and their explicit association with one of Jean des Murs’s patrons, I proposed that the three *libelli* of the Parisian manuscript BnF lat. 7378A were written by Jean des Murs between *c.* 1326 and *c.* 1330 (*Music and the moderni*, 31–3; ‘Three *Libelli*’, 47–52);
- based on an analysis of the layer of the Parisian MS BnF lat. 7378A that contains music theory treatises (Jean des Murs’s treatises, the three *libelli*, and a central Vitriacan *ars nova* witness) I proposed this manuscript could date from *c.* 1350, and thus is one of the earliest surviving manuscript sources for *ars nova* music theory (‘Three *Libelli*’, 50–1);

³³ Andrew Wathey, ‘The Marriage of Edward III and the Transmission of French Motets to England’, *Journal of the American Musicological Society*, 45 (1992), 1–29 at 22; Desmond, *Music and the moderni*, 124–5.

³⁴ *Music and the moderni*, 140–1; Zayaruznaya, ‘Old, New, and Newer Still’, 108 n. 45.

³⁵ Yolanda Plumley, *The Art of Grafted Song: Citation and Allusion in the Age of Machaut* (Oxford, 2013), 231–9; Andrew Wathey, ‘The Motets of Philippe de Vitry and the Fourteenth-Century Renaissance’, *Early Music History*, 12 (1993), 119–50 at 134.

³⁶ Elizabeth Eva Leach, *Guillaume de Machaut: Secretary, Poet, Musician* (Ithaca, NY, 2011), 152, 158; Desmond, *Music and the moderni*, 237–8; Desmond, ‘Traces of Revision’, 397–9.

³⁷ *Music and the moderni*, 130–41; Edward H. Roesner, in *Le Roman de Fauvel in the Edition of Mesire Chaillou de Pesstain: A Reproduction in Facsimile of the Complete Manuscript, Paris, Bibliothèque nationale, fonds français 146. Introduction by François Avril, Nancy Freeman Regalado, and Edward H. Roesner* (New York, 1990), 34.

- based on a reading of the content of the three *libelli*, I proposed that the second *libellus* represents an intermediate stage in Jean des Murs's thought between *Notitia* bk. 2 and the *Compendium* (and it does not appear to include theory from the *Conclusiones*) (*Music and the Moderni*, 101–2; 'Three *Libelli*', 52–7);
- based on a study of Jean des Murs's compositional habits (that is, his propensity for constant revision and recasting of his theory), I proposed Des Murs probably also revised and recast his music theory on mensural music several times.³⁸

³⁸ *Music and the moderni*, 76, 90, 96, 99–102, 113; 'Three *Libelli*', 61–3; Nothaft et al., 'Jean des Murs's Quadrivial Pursuits', 8. Also see Figure 3 ('Three *Libelli*', 62) for a visual representation of the complexity of the textual relationships (and the manuscript transmission of) the various versions of Des Murs's and Vitry's theoretical works on *ars nova*.