

## Proprietas and perfectio

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On the History of Thirteenth-Century Rhythm,  
Its Notation and Its Terminology\*

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The contents and historical significance of Franco's theory of rhythm and notation have been well known for a long time. The theory of the rhythmic modes and their specific manner of notation has also been cleared up; that there are still some ambiguities might be less the problem of modern research than of the peculiar nature of this system. Those important musical manuscripts, too, whose notation is reckoned for the most part to belong to the "pre-Franconian" developmental stage, have long since been transcribed in convincing manner.

Yet in spite of this – or rather: precisely because of it – there has not so far been a detailed inquiry into the two central terms of the rhythmic and notational doctrines in the thirteenth century: *proprietas* and *perfectio*. This is perhaps not surprising, as the declared aim of our work on these teachings, that is, gaining access to the practical musical monuments, has been achieved equally well without a deeper understanding of these terms. Besides, the fact that *proprietas* and *perfectio* were used, already by the later thirteenth century, as colorless technical terms for the schematic labelling of ligature forms and their rhythmic values, and in the end served merely for the discussion of rhythmically irrelevant details of notation, may for a long time have diverted attention from those fundamental questions—for which reason these terms, which are so important for medieval ways of thinking in so many areas, found their way into the theory of musical rhythm and its written record, a body of theory which can trace back its manifold changes in meaning to them.

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In the following enquiry it will be our task to trace the history of the two terms within the sphere of thirteenth-century ligature theory, and to bring them in closer connection with the history of rhythm and rhythmic notation itself. The starting point for such an enquiry must be, of course, the *Positio de musica mensurabili* of that great initiator Johannes de Garlandia, where these terms can be found for the first time with the interconnected significance that is to be discussed here. The high quality of the Franconian system is evident from the thoughtful manner in which it adopted and recast Garlandia's teachings. Yet it is only the reaction in the later thirteenth century that tells us how revolutionary those teachings must have been in their own time. Still, if we will also include in our enquiry such later authors as Lambertus, Anonymous IV, the Anonymous St Emmeram, and others, then this is not just to demonstrate the latter point. The efforts of these authors to stay as faithful as possible to the modal conception represented by

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Johannes de Garlandia, without at the same time ignoring Franco, and their various viewpoints regarding terminological usage and notation signs – in short: the manifold problems in which almost every of these authors became entangled, each in his own personal way, show more pointedly than the doctrines of Garlandia and Franco of Cologne (which remained above all contention) to what considerable degree the history of thirteenth-century music was dominated by the intellectual engagement with musical rhythm.

The terms *proprietas* and *perfectio* did not just accompany the development from the modal to mensural system of rhythm and notation, but, as fundamental ingredients of the theory, they also guaranteed, despite all inner contradictions, a certain continuity: it is this continuity that allows us follow the historical transformation.

## I.

With regard to the rhythmic interpretation of the ligatures, Johannes de Garlandia<sup>1</sup> gives the following rules:<sup>2</sup>

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<sup>1</sup> The *Positio de musica mensurabili* survives in two different versions. CH. E. H. DE COUSSEMAKER has published both: CS I, 97a–117a (after the manuscript Paris, Bibliothèque Nationale, lat. 16663; emended edition in S. CSERBA, *Hieronymus de Moravia, Tractatus de Muisca*, Freiburger Studien zur Musikwissenschaft, second series of Veröffentlichungen des Musikwissenschaftlichen Instituts der Universität Freiburg, Switzerland, ed. K. G. FELLERER, cahier 2, Regensburg 1935 – hereafter “Cserba” for short; we will quote from this edition, which also contains the *Discantus positio vulgaris* and the *Ars cantus mensurabilis* of Franco of Cologne; in both this and the other version, errors will be corrected after the manuscript source) and CS I, 175a–182b (after the manuscript Rome, Biblioteca Apostolica Vaticana, Cod. lat. 5325 – in MGG VII, col. 93, incorrectly cited as “Ms. 5315”; Coussemaker did not know about the manuscript Bruges, Stadsbibliotheek, Boek 528, which contains on fols. 54v–59v an approximate version of CS I, 181a: “. . . *reducuntur ad tres ligatas*”). Although the version transmitted in the compilation of Hieronymus de Moravia is complete, it was evidently revised and/or expanded from a Franconian perspective in several places – to mention just the interpolation beginning with the words “*Multa in praedictis dimisimus . . .*” (Cserba 225, 33–228, 13 = CS I, 115a–116b), in which there is, amongst others, a second description of the copula, and in which the author does not speak of *organum per se* (or simply *organum*) but rather, like Franco, of *organum purum*. For that reason the Vatican version would certainly have to be preferred, yet this version is not only incomplete (Coussemaker, to be sure, did not even publish all that was available) but also riddled with errors – so the version by Hieronymus is not completely dispensible. The Vatican version is to be regarded as the more authentic one also for this reason, that the two authors who built on Garlandia, namely, Anonymous IV and Anonymous St Emmeram, mostly follow its choice of words whenever the Rome version departs from the Paris version.

As far as the problem of ligatures is concerned, the state of affairs is particularly complicated: although the relevant texts survive in all manuscripts, the extremely informative ligature examples that follow each rule are lacking in the Vatican version; this version is conspicuous for its quite marvelous systematicity precisely in the doctrine of ligatures: for example, it mentions, besides the ligatures *cum*, *sine*, and *cum proprietas opposita*, also a fourth ligature *sine opposito cum proprietas* (CS I, 178a), and besides the ligatures that are perfect or imperfect *circa finem* and provided with a plica, also a ligature *sine plica*. The *figura sine opposito cum proprietas* can only be either *cum* or *sine proprietas*, the *figura sine plica* is either perfect or imperfect; in neither of the two cases, then, does the fourth species add a genuine novelty to the first three species – at least as far as the present author is able to understand this text.

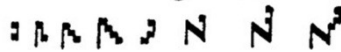
Because of these difficulties, we will generally base our enquiry on the text of the Paris version, though we will, to be sure, draw on the Vatican text when there are differences in content.

A resolution of the problems associated with this treatise may be expected from a dissertation currently prepared at Freiburg im Breisgau.

Omnis figura ligata cum proprietate posita et perfecta paenultima dicitur esse brevis et ultima longa. Si sint praecedentes vel praecedens, tunc omnes ponuntur pro longa, ut hic:

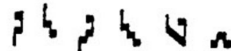
Every ligature notated with propriety and perfect: the penultimate is said to be short and the last one long. If there one or more notes preceding, then these are all written for a long, as here:

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Omnis figura sine proprietate et perfecte posita valet oppositum cum proprietate, ut hic patet:

Every figure without propriety and notated perfectly is worth the opposite with propriety, as here:

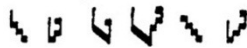


Regula est, quod nunquam ponuntur duae breves vel tres vel quatuor pro brevi, ubi possunt poni pro longa.

The rule is that two breves, or three or four, are never written in the place of one breve when it is possible to write them in the place of a long.

Omnis ligatura cum proprietate opposita et perfecta ultima est longa, et omnes praecedentes ponuntur pro brevi, si sint ibi plures:

Every ligature with opposite propriety and perfect: the last note is long, and all preceding notes are written in the place of a breve if there are several:



Sed si sint duae tantum, non valent nisi brevem, ut hic patet:

But if there are only two, then they are worth no more than a breve, as shown here:





Regula est, quod omnis figura imperfecta si sit cum proprietate, extenditur quoad perfectionem primi modi usque ad primam longam sequentem, si sit sine proprietate, extenditur quoad perfectionem secundi modi usque ad primam brevem sequentem. Et totum hoc intelligitur in conductis et in motellis, quando sumuntur sine littera vel cum littera. Si proprio modo figurantur, omnes figurae fere accipiuntur imperfectae, et hoc intelligitur in discantu et ubicumque rectus modus accipitur.<sup>3</sup>


The rule is that every imperfect figure, if it be with propriety, is extended, as far the perfection of the first mode is concerned, until the first long that follows, and if it be without propriety, is extended, as far as the perfection of the second mode is concerned, until the first breve that follows. And all this is to be understood in conducti and motets, whether they are without words or with words. If they are notated in the proper manner, all figures are taken as imperfect, and this is understood in discant, and wherever the modus rectus is used.<sup>3</sup>

<sup>2</sup> For the interpretation of the following rules, see also the relevant sections in W. NEUMANN, *Über die abweichende Bedeutung der Ligaturen in der Mensuraltheorie der Zeit vor Johannes de Garlandia. Ein Beitrag zur Geschichte der altfranzösischen Tonschule des XII. Jahrhunderts*, BIMG I 6, 1902; A. M. MICHALITSCHKE, *Theorie des Modus. Eine Darstellung der Entwicklung des musikalischen Modus und der entsprechenden mensuralen Schreibung*, Deutsche Musikbücherei, tome 51, Regensburg 1923, and W. G. WAITE, *The Rhythm of Twelfth-Century Polyphony. Its Theory and Practice*, Yale Studies in the History of Music, vol 2, ed. L. SCHRADE, New Haven 1954. Since Waite only fleetingly touches upon terminological problems, and both Niemann and Michalitschke are frequently in error precisely in the realm of terminology, we will dispense with a detailed discussion of their results.

<sup>3</sup> Cserba 199, 8–20 and 200, 10–18 (CS I, 99b–100b), corresponding to CS I, 178b–179a. The seventh ligature *cum proprietate*, with its inward-turned third note, is incorrect also in the manuscript. The fifth ligature *cum proprietate opposita* is placed so closely to the text above it, that the *tractus ascendens* could not be added – this notation, therefore, need not be viewed as a conscious departure from the rule. It was surely an oversight that the torculus among the ligatures *sine proprietate* was written *cum proprietate*.

[118] For the determination of the values of all notes in a ligature, including the last one, only one factor is decisive: it is the *proprietas* that can be read from the first note. For example, in the case of a ligature *cum proprietas*  (i.e., with an unmodified beginning) it would be a pleonasm<sup>4</sup> to spell out that the final note is long — for example, by calling the ligature a *figura perfecta* or *perfecte posita* (“complete” or “completely notated”) in the Franconian sense of *figura cum perfectione* (“with perfection”) — for the value of the final note is already implicit in the *proprietas* of the first note.

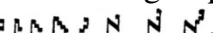
The same is true of ligatures *cum proprietas opposita*  (i.e. with an upward stem at the beginning), provided they consist of three notes or more: in these ligatures, too, the final note is by definition long.

In the case of a ligature *sine proprietas*  (i.e., without a stem when there should be one), the lack of propriety alone indicates that the final note is short, and so there is no need to indicate that by applying imperfection in addition. However, it would be quite wrong therefore to understand the ligature as a figure “with perfection” in the Franconian sense. For according to Franco, a breve as the last note presupposes a *figura imperfecta* or *sine perfectione* [whereas in Garlandia this is already covered by the *proprietas*].

So we should not understand Johannes de Garlandia’s *figura perfecta* as perfect in the later mensural sense (i.e. as specifying the value of the last note). The same is true, as we will show in more detail below, of the *figura imperfecta*. The concepts of *perfectio* and *imperfectio*, in Johannes de Garlandia, have nothing to do, at least not directly, with the determination of the values in a ligature. Compared to *proprietas* they are of secondary significance.

When a ligature is characterised as *cum proprietas*, it means that it is notated in the same way as a plainchant ligature

- . . . it is said to be ‘with propriety’ because this is how it is written in plainsong . . . —
- . . . cum proprietas dicitur eo, quod sic in plana musica figuratur . . .<sup>5</sup> —

and thus also in the same way as in modus notation: all the signs which Johannes de Garlandia groups under the rubric *cum proprietas* are traditional modal ligatures: .

On the other hand, there does not appear to have been a fixed formal conception, from the start, as to what is meant by *sine proprietas*. For the ligatures cited under this rubric by Johannes de Garlandia are, contrary to the rules given in the immediately preceding text,<sup>6</sup> on the whole not uniformly shaped.<sup>7</sup> True, the defining modification of the first

<sup>4</sup> Thus already in MICHALITSCHKE, *loc. cit.*, p. 61.

<sup>5</sup> Franco of Cologne, Cserba 241, 12–13 (CS I, 124b).

<sup>6</sup> “*Cum proprietas descendente* [= in figura descendente] *dicimus, quando primus punctus habet tractum descendente a latere sinistro, si tractus fuerit ascendens, cum proprietas opposita dicitur . . . In figura ascendente proprietas sua est, quando primus punctus non habet tractum . . . Sed sine proprietas dicitur, si habet tractum . . .*” (Cserba 198, 13–19 = CS I, 99a–b; corresponding to CS I, 178a).

<sup>7</sup> Just as with the other inconsistencies that make it so difficult to arrive at a clear interpretation of the version transmitted by Hieronymus of Moravia, we must consider here, too, the question as to the editorial activities of the compiler himself. In the case at hand, where the formal description of the ligatures was evidently more uniform than the immediately following determination of their rhythmic values, it seems plausible that Hieronymus intervened in order to restore consistency.

ligature note is always there. Yet Garlandia's musical examples of the *figura sine proprietate et perfecte posita* show an alternation between *sine proprietate* and *cum proprietate opposita* ♯ ♯ ♯ ♯ ♯ ♯ (to put it in the terms of the previous section in the treatise).

Still, this apparent conflation of different ligature types need not necessarily reflect an error. For the alternation does not happen arbitrarily, but rather in such a way that all ascending ligatures are written with a downward *tractus* ♯ ♯, and all descending ligatures with an upward *tractus* ♯ ♯ ♯ – with only one exception, a torculus that was written *cum proprietate* ♯ surely by oversight. Notational differentiation of this kind was still known at the end of the thirteenth century. Walter Odington remarked:

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The second mode proceeds with a proper and perfect binary ligature, and has a single breve at the end . . . Sometimes they notate a long between two breves in this way, and in a descending ligature with opposite propriety, thus: ♯ ♯ ♯ ♯. In an ascending one with impropriety, thus: ♯ ♯.

Secundus modus procedit per binariam ligaturam propriam et perfectam, et habet in fine brevem simplicem . . . Aliquando hoc modo signant longam inter duas breves et in ligatura descendente, hoc per oppositam proprietatem signant sic: ♯ ♯ ♯ ♯. In ascendente per improprietatem sic: ♯ ♯.<sup>8</sup>

Conversely, the Anonymous St Emmeram, in 1279, pointed out that conservative notators wrote ascending three-note ligatures *cum proprietate opposita* with a downward *tractus*:

But some, following in the footsteps of certain of the ancients, have persistently “protracted” [i.e. added a *tractus* to] that ascending three-note figure which is to be written without propriety and imperfect, and sometimes also perfect, in this manner: ♯ ♯.

Quidam tamen quorundam veterum uestigia sussequentes ternariam figuram per oppositum figurandum sine proprietate et imperfectam et etiam quandoque perfectam in solo ascensu continuo protraxerunt in hunc modum: ♯ ♯.<sup>9</sup>



From these three testimonials by Johannes de Garlandia, Walter Odington, and the Anonymous St Emmeram it is apparent that ligatures *sine proprietate* and *cum proprietate opposita* were, up to a particular point in time, not kept strictly apart as to their rhythmic significance. Or, to put it more precisely: that the inversion of rhythmic values (Longa–Brevis instead of Brevis–Longa, Brevis–Longa–Brevis instead of Longa–Brevis–Longa) can be graphically expressed, not only by omitting the *tractus* in the case of descending ligatures ♯ ♯, and adding a downward *tractus* in the case of ascending ones ♯ ♯, but also, in both cases, by adding an upward *tractus* at the same point (notation *cum proprietate opposita*). And likewise, it is apparent that the compression of all ligature notes before the final one into the value of a single brevis<sup>10</sup> can be expressed, in the case of the ascending three-note ligature, by adding a downward *tractus* ♯ (notation *sine proprietate*).

<sup>8</sup> *De speculatione musice*, CS I, 244a–b. The third and fourth ligatures do not reflect what is said in the text. The text by Odington will be consistently corrected here after the manuscript Cambridge, Corpus Christi College 410.

<sup>9</sup> H. SOWA, *Ein anonymes glossierter Mensuraltraktat 1279*, Königsberger Studien zur Musikwissenschaft, ed. by the musicological university seminar under the direction of J. M. MÜLLER-BLATTAU, tome IX, Kassel 1930 – hereafter “Sowa” for short – p. 48, 3–8. This text will be consistently corrected after the (unique) manuscript Munich, Bayerische Staatsbibliothek, Clm 14523.

<sup>10</sup> Regarding the specific rhythmic questions related to *proprietas opposita*, see below, p. 124.

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Unfortunately Johannes de Garlandia never gets round to discussing one dilemma: namely, that when it comes to the determination of rhythmic values (see the text reproduced above, p. 117), the tail-less form of the descending ligature  does not appear in this system at all anymore, whereas the upward-tailed form  may denote two different successions of rhythmic values: Longa-Brevis or Brevis-Longa-Brevis when it is understood as *sine proprietas*, and Semibrevis-Semibrevis or Semibrevis-Semibrevis-Semibrevis when understood as *cum proprietas opposita*. In practice, of course (that is, in the musical examples of the modes), we do not encounter the upward *tractus* in any of the versions for Garlandia's treatise as a sign to denote lack of *proprietas*; in these examples we repeatedly find, for *sine proprietas*, the tail-less descending ligature, which is actually absent among the examples of the rule "Omnis figura sine proprietas . . ." (cf. first imperfect mode, second variant; second imperfect mode, second variant, in the Paris version).

In view of this lack of unanimity it is necessary to pose, even at this point, the question as to the original meaning of the expressions *sine proprietas* and *cum proprietas opposita* – the rhythmic interpretation of the *proprietas opposita*, which is to be explained later on, is not affected by this.

While the expressions *sine proprietas* and *per improprietas* are easily explained as the negation of the plainchant or modal notation (*cum proprietas*), greater difficulties are posed by the expression *cum proprietas opposita*. The easiest explanation is offered by that branch of ligature theory which – after the example, probably, of Lambertus – understands by *proprietas* the *tractus* at the beginning of the ligature. *Oppositus* is equated here with *ascendens*, and *proprietas opposita* consequently with *proprietas ascendens* – the upward *tractus* at the beginning of the ligature:<sup>11</sup>

All the little notes in the middle are breves, except when ascending propriety is placed before the ligature and the said first two are semibreves . . .

Omnis medie notule sunt breves, nisi proprietas ascendens proponatur copule [= ligature], et dicte due prime sunt semibreves . . .<sup>12</sup>

or:

Every initial figure that has upward propriety on the left side, and the next note following it, is a semibrevis . . .

Omnis figura initialis habens proprietatem sursum in sinistra parte semibrevis est et proxima eam sequens . . .<sup>13</sup>

At the same time this usage does not reflect the views of those authors in whose writings the expression *cum proprietas opposita* (and also *per oppositum cum proprietas*,<sup>14</sup> *per oppositum proprietatis*,<sup>15</sup> *cum oppositate*<sup>16</sup>) appears for the first time. Even the treatise by Lambertus, in which the conflation of *proprietas* and *tractus* can be documented for the

<sup>11</sup> MICHALITSCHKE, *loc. cit.*, p. 48, and L. A. DITTMER, *The Ligatures of the Montpellier Manuscript*, MD IX, 1955, p. 55, also offer this explanation for the expression.

<sup>12</sup> Pseudo-Theodoricus de Campo, CS III, 190a. For the identity of the author, cf. the study by R. CASIMIRI, *Teodono de Caprio non Teodorico de Campo, teorico musicale italiano del sec. XV*, Note d'Archivio per la Storia musicale XIX, 1942, p. 38 ff. (not taken into account in MGG XIII, col. 321 ff.)

<sup>13</sup> Anonymous XII, CS III, 487a; the author speaks already of *filus seu proprietas* before this (486b).

<sup>14</sup> Johannes de Garlandia, CS I, 178b.

<sup>15</sup> Anonymous St Emmeram, Sowa 29, 21 f. and passim.

<sup>16</sup> Johannes Hanboys, CS I, 444a.

first time, calls the *tractus ascendens* a “*proprietas non propria*”.<sup>17</sup> If the expression *cum proprietate opposita* would already have been understood, by the middle of the thirteenth century, in the sense of a “contrary” (upward) direction of the *tractus*, then Lambertus would almost certainly have adopted that usage. As his treatise shows, however, he has not even begun to establish a basis for it.

The most compelling and assuredly also most authentic explanation is offered by the Anonymous St Emmeram. For him the expressions *sine proprietate* and *cum proprietate opposita* mean the same thing – each negates the *proprietas*, but does so in different ways:

And note that *sine proprietate* means to be completely deprived of proper propriety, to be pushed away from it, and *per oppositum* means to be in opposite propriety. From this, therefore, I argue [that], to be deprived of propriety, on the one hand, and to be in opposite propriety, on the other, seem to be the same thing, since they both disagree so strongly with proper propriety that they seem to be contrary to the same propriety in their meanings as well as in their signs. So if they are the same thing, one of them already seems to be superfluous . . .

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Et nota, quod sine proprietate est a proprietate propria priuari penitus et repelli, per oppositum est proprietati opposite se habere. Ex hoc igitur sic arguo . . . : priuari a proprietate et per oppositum proprietatis se habere videntur esse idem, cum proprietati proprie sic repugnent, quod eidem proprietati tam in significationibus quam in signis contraria uideantur. Si ergo sint eadem, unum ex hiis superfluere iam uidetur . . .<sup>18</sup>

And yet, neither of the two expressions is really superfluous. For they apply to different situations, they negate for the sake of (positive) goals in different directions:

We say only that neither of them is superfluous, but on the contrary that the invention of both is necessary . . . For when it is argued that they are the same, on the grounds that they are both opposed to proper propriety, then we say that they disagree not in the same way but in different relationships and kinds, for which reason they are not the same, but rather also oppose each other in a similar way . . . And when it is objected that a true kind of opposition can only involve two alternatives, not three, then we say that this is true of things that are opposed in one respect, but not for things that are opposed in several respects [at the same time]. The latter things may be opposed to each other in ways that differ again and again, because the opposition involves differences with respect to things signified as well as the signs themselves . . .

Solummodo dicimus, quod neutrum illorum superfluit, immo utriusque inuentio necessaria iudicatur . . . Quando uero arguitur, quod sunt idem, eo quod proprietati proprie se opponant, dicimus, quod repugnant non eodem modo sed diuersis respondentibus et naturis, quare non sunt idem, immo similiter ab inuicem se opponunt . . . Quando uero obicitur, quod uerum oppositorum genus ad duo solummodo et non ad tria se extendit, dicimus, quod uerum est quo ad opposita simpliciter circa idem, et non quo ad opposita circa diuersa. Ista siquidem aliter et aliter ab inuicem se opponunt, eo quod in oppositione differunt tam circa significata quam circa signa . . .<sup>19</sup>

<sup>17</sup> CS I, 274a and passim.

<sup>18</sup> Sowa 34, 37 – 35, 5.

<sup>19</sup> Sowa 35, 9–20. The original (terminologically unrestricted) negative meaning of *proprietas opposita* has been preserved in one place in the *Libellus cantus mensurabilis secundum Johannem de Muris*. Here, the expression *per oppositam proprietatem* is used to describe a manner of notating ligatures which neither involves an upward *tractus* at the beginning nor has anything to do with semibreues: rather, the author invokes the expression – in any event only quoted *secundum aliquos* – to qualify the unusual manner in which the final note is written: “*Sexta regula est, quod omnis ultima stans directe supra penultimam vel a latere habens tractum descendentem a parte dextra, cum*

With this it is established that the expressions *sine proprietate* and *cum proprietate opposita* originally meant the same thing, namely, a negation of notation *cum proprietate*. To this extent it seems quite understandable that their notations, too, would have been not too rigorously distinguished for some time, and evidently continued to give rise to confusion until late in the thirteenth century.<sup>20</sup> Although Johannes de Garlandia already worked toward a differentiation in principle between the two expressions, ligature types, and rhythmic interpretations, that differentiation cannot yet be viewed as a consistent one – as is shown by his own examples of notation *sine proprietate*. And when, later on, the notation of the *tractus ascendens* as *signum semibrevitatis* and the notation *sine proprietate* are defined with rhythmic precision, then this is based, in any case, on subsequent theorizing.

[122] The question, finally, why the authors or notators of the early thirteenth century would have arrived at precisely these manners of notation seems to admit of only one answer: namely, that it had not yet been possible to conceive of simpler and clearer ways to indicate that which it was considered necessary to notate only at a later date. The question, moreover, whether the *tractus ascendens* might have been inspired by the plica notation of single notes, as Michalitschke was keen to assume, can be neither ruled out nor established with any certainty. It should in any case be kept in mind that the descending plica, in longas as well as breves, was notated with two downward *tractus*.<sup>21</sup>

In the first of the two rules quoted above (the *proprietas opposita* is left out of consideration here) Johannes de Garlandia mentioned only two successions of values that are associated, in the modus system, with the three-note ligature: Longa–Brevis–Longa and Brevis–Longa–Brevis. The successions Brevis–Brevis (*altera*)–Longa (third and fourth modes), Brevis–Brevis–Brevis (sixth mode), and – less important, and controversial when notated in this way<sup>22</sup> – Longa–Longa–Longa (fifth mode), are not taken into account and cannot, strictly speaking, be written down at all (at least not each in its own, new form), since the two successions mentioned above already exhaust all the graphic possibilities that are available in the system of Johannes de Garlandia.

Still, it is apparent from one glance at the modus examples in the Vatican version that Johannes de Garlandia notates all three-note ligatures *cum proprietate*, not just those that

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*perfectione dicitur et est longa; et secundum aliquos vocatur longa per oppositam posita proprietatem, ut hic:*  
 ♯ ♯ ♯” (CS III, 56a – the text is printed here after the manuscript Rome, Biblioteca Apostolica Vaticana, Palat. lat. 1377, fol. 87v). Cf. on this notational manner also Pseudo-Theodoricus de Campo, CS III, 189b, who does not, to be sure, use the expression *cum opposita proprietate*.

<sup>20</sup> Quite possibly such formulations as “*Omnis figura sine proprietate . . . valet per oppositum cum proprietate*” (Johannes de Garlandia, CS I, 178b; corresponding to Cserba 199, 12–13 = CS I, 100a) contributed to this as well; although they were meant to refer to a “contrary” or “inverted” sequence of rhythmic values, the linguistic connection between the two expressions was so narrow that it could perhaps be taken to imply a certain equality.

<sup>21</sup> MICHALITSCHKE, *loc. cit.*, p. 46 f., avoids posing the more general question, in that he applies the language only to ascending ligatures *cum opposita proprietate*: “The more striking thing is the ascending ligature. And there is obviously a connection with the plica, whose tractus is turned upward when [the ligature] ascends.”

<sup>22</sup> Cf. the pertinent remarks in Johannes de Garlandia (Cserba 201,15–202,2 = CS I, 101b, corresponding to CS I, 179v–180a), Anonymous IV (CS I, 333b–334a and 347a–b), Anonymous St Emmeram (Sowa 75, 12–13), and Franco (Cserba 247, 9–15 = CS I, 128a).



begin the first mode, but with few exceptions also those that occur in the second to sixth modes.

So the rather definitive-sounding formulation “*Omni s figura ligata . . .*” should not be accorded too much weight; it reflects a general manner in which rules tend to be introduced, and must certainly be qualified: admittedly the succession Longa–Brevis–Longa, at the beginning of the first mode, may be especially representative of the notation of three-note ligatures *cum proprietas*,<sup>23</sup> but the latter can be used also to indicate different successions of values in the second to sixth modes. As the modus examples show, the regularly modal manner of notation (*cum proprietas*), which assigns different successions of values to each ligature according to context, remains the norm,<sup>24</sup> with few exceptions also for Johannes de Garlandia, and this, to be sure, not just in the case of three-note ligatures.

[123]

The exceptions alluded to a moment ago concern the ligatures *sine proprietas* and *cum proprietas opposita* as well as the *figura imperfecta*. Before embarking on the question what was the basis of the discussion – possibly even invention – of these ligatures in Johannes de Garlandia, we should first discuss the relationship of each of these to the system of modal rhythm.

Notation *sine proprietas* effects the inversion of all rhythmic values (with respect to notation *cum proprietas*).<sup>25</sup> Since a genuine inversion can take place only between the first and second modes, the use of ligatures *sine proprietas* must have been limited to these modes as well. The first two *ordines* of the two modes are as follows:

First mode: Longa Brevis Longa (three-note ligature *cum proprietas*)  
 Second mode: Brevis Longa Brevis (three-note ligature *sine proprietas*)

When the third note is replaced by a rest, the situation is reversed:

First mode: Longa Brevis (two-note ligature *sine proprietas*)  
 Second mode: Brevis Longa (two-note ligature *cum proprietas*)

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<sup>23</sup> According to Anonymous IV this seems to have been the original rhythmic interpretation of three-note ligatures: “*Istae regulae utuntur in pluribus libris antiquorum, et hoc a tempore et in suo tempore Perotini Magni, sed nesciebant narrare ipsas cum quibusdam aliis postpositis, et similiter a tempore Leonis pro parte, quoniam duae ligatae tunc temporis pro brevi longa ponebantur, et tres ligatae simili modo in pluribus locis pro longa brevi longa etc.*” (CS I, 341b–342a; the text of the treatise by Anonymous IV is cited after the author’s dissertation, which is available in print as *Der Musiktraktat des Anonymus 4*, BzAfMw, t. 4–5, Freiburg im Breisgau 1965; since the page numbers of the new edition are not known as of yet, we will cite only the location in CS I). The Anonymous St Emmeram comments in more or less the same way (Sowa 37, 8–17). See also WAITE, *loc. cit.*, p. 61 f.

<sup>24</sup> In this case Dietricus is actually even more exact than his source Johannes de Garlandia. He formulates: “*De tribus adinvicem ligatis sciendum est, quod possunt scribi cum proprietas . . . , et in omnibus his prima longa est, secunda brevis, tertia longa, nisi forte nota caudata praecedat tres ligatas . . . , et tunc de tribus ligatis primae duae sunt breves, tertia longa*” (H. MÜLLER, *Eine Abhandlung über Mensuralmusik in den Karlsruher Handschrift St. Peter pergamen. 29a*, Mittheilungen aus der Großherzoglich Badischen Hof- und Landesbibliothek und Münzsammlung, t. VI, Karlsruhe 1886, p. 6). For an even more precise representation, see the quotation from the *Discantus positio vulgaris*, below, p. 137.

<sup>25</sup> In the following discussion, the expressions *sine proprietas* and *cum proprietas opposita* are consistently used according to their principal meanings.

What is indicative now is the fact, already noted before, that the Vatican manuscript makes scarcely any use yet of notation *sine proprietate* in its examples, but – like the modal Notre Dame sources – writes almost all the ligatures *cum proprietate*, even when according to the mode they ought to be performed as *sine proprietate*. The scribe evidently observed the rule of Johannes de Garlandia which holds that

. . . a figure must never be written without propriety where it can be written with propriety.

. . . numquam debet poni aliqua figura sine proprietate, ubi potest poni cum proprietate.<sup>26</sup>

For Johannes de Garlandia, then, notation *sine proprietate* is only an ancillary tool, to be used *ad libitum* for the clarification of particular modal-rhythmic situations – the inversion of the value relationships in the first two modes. Later on, when the understanding of traditional modus notation declined, the need for this ancillary tool increased proportionally: the Garlandia versions in Bruges and Paris already use the ligature *sine proprietate* in the modus examples whenever there is an occasion to do so.

[124] We encounter greater difficulties of interpretation with the notation *cum proprietate opposita*. Johannes de Garlandia treats only the form and rhythmic significance of this ligature, but does not allow it to appear in the modus examples.

Noteworthy above all is the fact that the total number of those ligature notes that, according to the notation *cum proprietate opposita*, are to be compacted in a combined value of one *brevis recta* is not specified. In the words of the Vatican version:

Every ligature with propriety by opposition and perfect: the last note shall be long and all preceding ones are written for a breve, whether there are more or fewer.

Omnis ligatura per oppositum cum proprietate et perfecta ultima erit longa et omnes precedentes ponuntur pro brevi, si sint ibi plures sive pauciores.<sup>27</sup>

By the *plures sive pauciores* that are to collapse into one breve are normally to be understood two to four notes (as is shown by the examples that accompany this rule in the Bruges and Paris versions). So the *tractus ascendens* in Johannes de Garlandia does not specify values which otherwise lack a precise rhythmic definition, but rather the fact of *fractio* in general: according to his theory, at the basis of every ligature *cum proprietate opposita* (starting with the three-note ligature *cum proprietate opposita*) there is a regular modal two-note ligature, whose first note (breve) is broken up into a varying number of partial breve values, depending on the size of the ligature, and which has to assume its place within a modal progression just like any regular two-note ligature.

What may seem odd at first is the fact that the breve is to be broken in up to four partial values. The question to what extent Johannes de Garlandia is still in agreement with the modal practice of his time here, and to what extent he goes beyond what is practically performable, must be left aside. Yet on no account should the rule be understood to imply that every note preceding the ultima represented a breve value in its

<sup>26</sup> Cserba 205, 2–3 (CS I, 103a), corresponding to CS I, 181a.

<sup>27</sup> CS I, 178b, corresponding to Cserba 199, 16–18 (CS I, 100a).

own right<sup>28</sup> – Anonymous IV, too, often states the matter in the sense established originally.<sup>29</sup>

It seems odd as well that Johannes de Garlandia might have understood every ligature *cum proprietate opposita* that consists of three or more notes, in general, as a fractured two-note ligature. This can be explained as follows: since the *tractus ascendens* does not denote fixed rhythmic values but rather the fact of *fractio* as such, a four-note ligature *cum proprietate opposita*, for example, could equally well be understood as a fractured three-note ligature (with the first note split into two partial values) or as a fractured two-note ligature (with the first note split into three partial values)—at least without the delimitation that is at issue here. If this ambiguity is to be avoided, then it should be possible to read, from the shape of the fractured ligature, to which of the two basic ligatures it can be reduced. Johannes de Garlandia has solved this problem in the simplest way: he generally insists on the traditional modal rule which holds that

every figure beyond three by its proper mode is to be reduced to three  
omnis figura ultra tres suo proprio modo reducitur ad tres.<sup>30</sup>

If this rule – reduction to a three-note ligature – does indeed apply, then any designation to that effect must be superfluous, since all notes prior to the penultimate note are automatically equivalent to the combined value of one longa:

Every ligature notated with propriety and perfect: the penultimate is said to be short, and the ultimate long. If there be a preceding note or notes, then these are all notated for a longa . . .

Omnis figura ligata cum proprietate posita et perfecta paenultima dicitur esse brevis et ultima longa. Si sint praecedentes vel praecedens, tunc omnes ponuntur pro longa . . .<sup>31</sup>

But when the fractured ligature is to be understood as reducible to a two-note ligature, then this is unambiguously indicated –as, in a certain sense, an exception to the modal ground rule – through the addition of a *tractus ascendens*.

Any doubt as to the conclusiveness of this interpretation is eliminated by Anonymous IV in his extensive rules on *fractio*, for example:

Also, four for a long in the same perfect [first] mode, a breve, in the manner of the beginning, thus: six notes joined in ligation, the penultimate a breve, the ultimate a long, the preceding ones four for a long, and this with propriety and perfection . . .

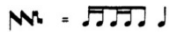
<sup>28</sup> Thus, contrary to the Vatican and Paris versions, the Bruges manuscript reads incorrectly (fol. 57v): “*Item omnis ligatura per oppositum cum proprietate et perfecta ultima est longa et omnes precedentes ponuntur pro brevibus etiam si sint plures.*”

<sup>29</sup> Compare, for example, the following comments: “*Sonus sub uno tempore [acceptus] potest dici sonus acceptus sub tempore non minimo, non maximo, sed medio legitimo breviter sumpto, quod possit frangi veloci motu in duobus, in tribus vel quatuor [ad] plus in voce humana, quamvis in instrumentis possit aliter fieri*” (CS I, 328a–b); “. . . tres pro brevi . . . Et ulterius per consuetudinem raro frangimus, videlicet non ponimus quatuor pro brevi in voce humana; sed in instrumentis saepius bene fit . . .” (CS I, 338a); “. . . si quatuor currentes pro una brevi ordinentur, sed hoc raro solebat contingere. Ulterius vero non in voce humana, sed in instrumentis cordarum possunt ordinari” (CS I, 341b).


<sup>30</sup> Cserba 205, 15–16 (CS I, 103b), corresponding to CS I, 181a.

<sup>31</sup> Cserba 199, 8–11 (CS I, 99b–100a), corresponding to CS I, 178b.

Iterato de eodem primo [modo] perfectio quatuor pro longa, brevis, in forma principii sic: sex ligatas coniunctas, paenultima brevis, ultima longa, praecedentes quatuor pro longa, et hoc cum proprietate et perfectione . . .<sup>32</sup>

The six-note ligature stands for a three-note ligature in the first mode; that is why it can be written simply *cum proprietate et perfectione*, even though it is heavily fractured (four semibreves in the place of the first long): 

On the other hand, a four-note ligature which is to be reduced to a two-note ligature will be represented *cum proprietate opposita*, exactly in accordance with the rules of Johannes de Garlandia:

Also, in the same first mode, three for a long and three for a breve in the manner of the beginning: a written longa with two *currentes*, four notes ligated with opposite propriety and perfection, of which three are for a breve, and the last is long: 

Iterato de eodem [primo modo] tres pro longa et tres pro brevi per modum principii: longa materialis cum duobus currentibus, quatuor ligatas coniunctim cum opposita proprietate et perfectione, quorum tres pro brevi, ultima longa.<sup>33</sup>

[126] Let us briefly touch upon a further, coincidental fact. In addition to the three- or more-note ligature *cum opposita proprietate*, the Bruges and Paris versions, but not the Vatican one, mention also the two-note ligature with opposite propriety. If one might already suspect, from the fact that the Vatican version does not (as yet) know this ligature, that its creation represents a secondary development, then this suspicion is confirmed by one simple consideration: the two-note ligature *cum opposita proprietate* stands for the value of one *brevis recta*; in a certain sense, therefore, it represents a fractured single note. In the realm of modal theory, however, fraction of the single note was to be indicated, according to all rules, by a plica. Thus we may regard it as certain that the two-note ligature *cum proprietate opposita* is nothing but an “imperfect” three-note ligature *cum proprietate opposita* which originally constituted a modal unit, not by itself alone, but only together with a subsequent longa.<sup>34</sup> Once again Anonymous IV confirms this interpretation; in connection with the definition of *proprietas opposita* adopted from Johannes de Garlandia, he writes:

From which it follows that there should be at least three notes ligated with such opposite propriety, whether on paper or in the understanding. For when two notes have such opposite propriety, they are equivalent to the first two notes in a three-note ligature of the abovesaid propriety. And when they are followed by one longa, the two notes together with that longa are equivalent to three of that propriety . . .

Unde sequitur, quod ad minus sint tres ligatae actu vel intellectu cum tali proprietate opposita. Quare si duae habeant talem oppositam proprietatem, aequipollent primis duobus trium eiusdem proprietatis supradictae. Quare si una longa sequatur, ipsa cum eisdem aequipollent tribus eiusdem proprietatis . . .<sup>35</sup>

Our discussion of the original rhythmic interpretation of the *proprietas opposita* would not be complete without a consideration of the theory of Alfredus.<sup>36</sup> In his extremely

<sup>32</sup> CS I, 338a.

<sup>33</sup> CS I, 337b.

<sup>34</sup> For the *figura perfecta*, see below, p. 127.

<sup>35</sup> CS I, 342a–b.

conservative treatise of 1271, he invokes a number of three-note ligatures *cum proprietate opposita* which – contrary to the teachings of Johannes de Garlandia and Anonymous IV – represent the succession Brevis–Brevis–Brevis. Kromolicki reinterprets these ligatures consistently as Semibrevis–Semibrevis–Semibrevis with the argument that “semibreves, after all, belong to the essence of *proprietas opposita*”<sup>37</sup> and by pointing out that breve and semibreve were not as yet precisely distinguished in thirteenth-century terminology.<sup>38</sup> Yet three-note ligatures *cum proprietate opposita* fit quite well in the picture we have obtained so far, precisely when they have the value of three breves – even setting aside the fact that such a drastic reinterpretation [as proposed by Kromolicki] should only be the last resort in our research; in the case of Alfredus such reinterpretation is actually even risky, for this theorist does actually speak expressly of semibreves in his tables.

Since *proprietas opposita* originally denoted not specific mensural values but rather the fact of *fractio* in general, as demonstrated earlier, Alfredus’s three-note ligature *cum proprietate opposita* can be understood very well as a fractured modal two-note ligature, albeit one that was broken according to a different principle from the one discussed earlier on. According to Anonymous IV the easiest case of *fractio* is the conversion of the first into the sixth mode:

The first mode consists of long, breve, long, etc., as at the beginning without a rest by distinguishing [ligatures of] three and two and two, etc. Yet one must understand that one may distinguish differently here according to mode: two for a long, short, two for a long, short, etc., which is sufficiently evident from the abovesaid sixth mode.

Primus modus constat ex longa brevi longa etc., ut in suo principio sine pausatione per distinctionem trium duorumque duorumque etc. Sed intelligendum est, quod hic aliter distinguitur iuxta modum: duo pro longa, brevis; duo pro longa, brevis etc., quod satis patet per modum sextum supradictum.<sup>39</sup>

However, Alfredus’s three-note ligatures would be consistent [if read as three breves] not just with this authentic case of *fractio*, but would fulfill, at the same time, a rule of Johannes de Garlandia that we have not so far taken into account:

The rule is that two breves, or three or four, are never notated for a breve where they can be notated for a long. [127]

Regula est, quod nunquam ponuntur duae breves vel tres vel quatuor pro brevi, ubi possunt poni pro longa.<sup>40</sup>

In view of these testimonies it does no longer seem doubtful that Alfredus might have wished to indicate, with his *tractus ascendens* in a three-note ligature, a second kind of *fractio* in which it was not the first but (consistent with the rule of Johannes de Garlandia cited just now) the longer second note of the two-note ligature that was broken up into partial values.

<sup>36</sup> Partial edition in J. KROMOLICKI, *Die Practica Artis Musicae des Aumerus und ihre Stellung in der Musiktheorie des Mittelalters*, Diss. Berlin 1909.

<sup>37</sup> *Loc. cit.*, p. 20.











<sup>38</sup> *Loc. cit.*, p. 22.





<sup>39</sup> CS I, 336b.

<sup>40</sup> Cserba 199, 14–15 (CS I, 100a), corresponding to CS I, 178b.

William G. Waite has extensively discussed the *figura imperfecta*.<sup>41</sup> Therefore we need only briefly dwell on it here.

Johannes de Garlandia's *figura imperfecta* is fundamentally different from the *ligatura sine perfectione* later on in Franco of Cologne. While the latter retrospectively and artfully highlights the *imperfectio* by writing the final note of the ligature differently from the regular form (that is, the chant or modal ligature form), in order thus to express a value that could be freely determined rhythmically, the *figura imperfecta* of Johannes de Garlandia was a purely modal ligature, whose last note (if it may be expressed in this paradoxical manner) was actually not there. More precisely: whose last note was either separated from the body of the ligature, yet still reckoned as belonging to it, or replaced by a rest. "Imperfect," then, not because the last note was somehow not "perfect," that is, written in regular modal fashion, but rather because the last note was lacking.

In this case, however, the torso is automatically turned into an abnormal shape: the torculus  and scandicus  leave the fragment  (cf., in the Paris version, the examples of the fourth perfect mode, the sixth perfect mode, the third imperfect mode [first and second variant], the fourth imperfect mode [first variant]); the porrectus  leaves the figure  (fourth perfect mode, third imperfect mode [first to third variant]), and the four-note  leaves the figure . Only the climacus  leaves a figure  whose imperfection cannot be gauged from the shape, for which reason it is usually replaced by .

Necessitated in cases of pitch reiteration, change of syllable – Johannes de Garlandia refers expressly to the conductus and motet with their largely syllabic declamation – or imperfect mode (hoquetus), *imperfectio* can already be found in the earliest Notre Dame compositions, but not as a matter of ligature formation for its own sake. Rather, we find that split three-note ligatures are represented, as a rule, by a normal [i.e. complete] two-note ligature plus single note (, instead of  as Johannes de Garlandia would have required).<sup>42</sup> What also makes it harder to recognize an imperfect formation is the fact that the single note is often joined with the next ligature (so the beginning of the first mode with pitch reiterations on the second and third notes is written as either  or ). However, in such cases of ambiguity, Johannes de Garlandia does attempt to represent the rhythmic situation more clearly in the notation, by making visible the seams in the ligatures, or more precisely: he does not eliminate them or paper over the seams, and thus makes it considerably more easy to recognize modal-rhythmic constructions that are notated irregularly.

So Johannes de Garlandia's innovation is only that he makes (or leaves) a necessary modification in the regular ligature progression recognizable as such. Modal rhythm itself, or the principle of its notation in ligature chains, are not affected by this innovation.<sup>43</sup>

<sup>41</sup> *Loc. cit.*, p. 94 ff.; cf. also DITTMER, *loc. cit.*, p. 45.

<sup>42</sup> Regarding this method the Anonymous St Emmeram firmly declares: "*In hoquetis autem et in caudis cantuum aliorum nonquam debet poni figura perfecta pro imperfecta nec etiam e converso, quoniam tota uirtus figurarum quarumlibet ibi consistit et traditur precipue et illic specificè reperitur*" (Sowa 60, 8–12).

<sup>43</sup> So the first ordo of the first imperfect mode (Longa – Brevis – Rest) can be notated in three ways: purely modally with regular two-note ligatures (*cum proprietate* and perfect), with perfect two-note ligatures *sine*

The term *perfectio* appears in the ligature theory of Johannes de Garlandia in its literal meaning of “completeness.” It was only later generations, for whom the modal “completeness” or “incompleteness” of ligatures was no longer a meaningful concept, that would connect speculative thinking (the number three) with *perfectio*.

It is harder to explain the meaning of the term *proprietas* in ligature theory. *Proprietas*, objectively, means a “property” (more precisely: an “essential” property, one whose modification or elimination would cause the thing itself to change fundamentally, as opposed to mere accidentals), or the “peculiar nature,” the “character” *per se* of a thing, and later on also, in a more positive valuation, the property of a word to be exactly the right expression for a particular thing,<sup>44</sup> or the property of a note symbol to be exactly the right sign for a particular rhythmic value, for example:

It is the property of the correct breve and semibreve that they do not have any *tractus*.

*Proprietas recte brevis et semibrevis est, quod non habeant aliquem tractum.*<sup>45</sup>

It is this more specific meaning that we should assume for the concept of *proprietas* as it is invoked in ligature theory. In Johannes de Garlandia’s usage, the very word *proprietas* itself already embodies a sharply delineated property: *cum proprietate*, in his system, are the traditionally modal basic figures, *sine proprietate* (to mention only these here) are ligatures that have been modified in some characteristic way.

In Johannes de Garlandia’s system, ligatures *cum* and *sine proprietate* stand side by side as of equal rank, and as analogously having each its own specific rhythmic interpretation. So the expressions *cum* and *sine proprietate* cannot have been meant to qualify the presence or absence of some kind of “appropriateness” – why, after all, should theory concern itself so extensively with “inappropriate” ligatures? The only solution that remains, then, is the one mentioned by the Anonymous St Emmeram, namely, that *proprietas*, as used in ligature theory, refers to a manner of notation that is admittedly quite specific, and in a certain sense even preferred (i.e. the modal one), but that cannot by any means be considered as the uniquely appropriate one, but rather only as one of several possible manners of notation:

[129]

. . . those figures are called *sine proprietate*, not because they are somehow lacking in all propriety; but rather because their propriety is not compatible with the propriety of the preceding figures, which are called *cum proprietate* only as a kind of byname, since they are more beautiful, more fitting, and also more worthy in the way they dispose the signs . . . So if it is asked what is this *proprietas* which is attributed to figures of this kind, it is to be stated in general that *proprietas*, as it is found in them, is a certain distinction of different signs, representing different effects, that is sometimes effected with a *tractus* and sometimes without a *tractus*.

. . . iste figure non dicuntur sine proprietate, eo quod omni proprietate careant; immo eo, quod sua proprietas proprietati figurarum precedentium, que cum proprietate propria nominantur anthonomatie, quia sunt aliis pulciores, conuenientiores et etiam digniores in dispositione signorum, precipue sit repugnans . . . Vnde si queratur, quid sit proprietas prout huiusmodi figuris attribuitur, in communi

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*proprietas*, or with imperfect two-note ligatures *cum proprietate*. Cf. on the *figura imperfecta* also the elaborate discussions of Anonymous IV (CS I, 342b-344a).

<sup>44</sup> H. LAUSBERG, *Handbuch der literarischen Rhetorik*, Munich 1960, §§ 533–36.

<sup>45</sup> Anonymous VII, CS I, 380a.

dicendum est, quod proprietas, prout in eis sumitur, est quedam signorum differentia uariorum, que nunc cum tractu efficitur et aliquando sine tractu, effectus uarios representans.<sup>46</sup>

Used, even at their first occurrence in rhythmic and notational theory, as neutral technical terms – *anthonomatice*: “as a byname” – the expressions *cum* and *sine proprietate* nevertheless allow us to recognize the theoretical conception and historical position of Johannes de Garlandia: the point of departure for his ligature theory was the traditional *modus notation* (*figura cum proprietate*), and the graphic innovations (*figura sine proprietate*, *figura cum proprietate opposita*, *figura imperfecta*) reveal themselves to have been derivations also in a terminological sense. Over and above this, it is precisely in the choice of the concept of *proprietas* that we may discern Johannes de Garlandia’s own vision, namely, that for him the purely modal manner of notation is indeed the “actually correct one,” at least the “always right” manner of notation, even if he avoids any kind of evaluative ranking in his system.<sup>47</sup>

Yet Johannes de Garlandia departs not only from traditional modal theory and modal notation, in his doctrine of the *proprietates* and of the *figura imperfecta*, but also carefully observes the framework set by the six rhythmic modes. His interest is solely in making the modal manner of notation more precise in those cases where misunderstandings may easily arise. It is not concrete rhythmic values that he associates with the new signs, but the modal principle that leads to them: inversion of values in the first and second modes (*figura sine proprietate*), reduction to two-note ligatures via the concept of *fractio* – in this connection he even mentions two different ways of proceeding (*figura cum proprietate opposita*), the conceptual joining of separated ligature parts into a single modal-rhythmic entity (*figura imperfecta*). The resulting rhythmic values remain open to variation, depending on the number of notes and modal context, just as purely modal ligatures (*cum proprietate*) retain their original validity beside the new forms.

[130] Still, the fact that Johannes de Garlandia, in some central cases, makes it possible to read specific rhythmic values from the ligature formation itself, and effects, by introducing more signs, a reduction in the number of alternative rhythmic readings associated with any one sign, does make him the initiator of every innovation associated with Franco of Cologne, and thus a figure who has defined the nature of musical notation until into our own time.

The question whether the new manner of notation had been invented by Johannes de Garlandia himself or whether he adopted it from an older author who is no longer known today cannot be answered with certainty – though it is conceivable that there were forerunners of his graphic system. What does seem very probable, however, is the assumption that he was the first to elevate the new notational principle to a level of such considerable systematicity. For it was his *Positio de musica mensurabili*, not just any other treatise, that was to become the foundation for the theory of rhythmic notation for almost all authors of the later thirteenth century, beginning with Franco of Cologne.

<sup>46</sup> Sowa 41, 27–37.

<sup>47</sup> Even in Franco do we still hear an echo of the original evaluative meaning of *proprietas*: “. . . *ligatura cum proprietate essentialiter differt ab illa, quae est sine, ut rationale animal ab irrationali . . .*” (Cserba 240, 15–17 = CS I, 124a).



## II.

It was Franco's decisive step that he made the rhythmic interpretation of all notational signs dependent solely on their graphic form, thereby at the same time releasing rhythmic value from its dependence on modal context:

. . . figures must denote the modes and not the other way around, as some have asserted.

. . . figurae significare debent modos et non e converso, quemadmodum quidam posuerunt.<sup>48</sup>

Whereas Johannes de Garlandia had still put forward his clarifying signs as supplementary aids (to be used only *ad libitum*) for the determination of the mode or of more complicated modal-rhythmic structures, Franco's aim was to create a universal script that should have the capacity to denote unequivocally not just modal rhythms but also the rhythms that became increasingly beloved in the motet repertoire and that could no longer be incorporated within a rhythmic mode.<sup>49</sup> That he was able to realize this ambitious goal not just in a clear, taut, and at the same time extendible system, but in addition succeeded in maintaining a close connection with Johannes de Garlandia, both in his choice of note symbols and in their designation, despite the fundamentally contrary conception, deserves to be highlighted as a special achievement.

It was the fundamental premise of Franco's project that the value of any ligature note<sup>50</sup> could be established, recognized, and within certain limits also varied, independently from the notes surrounding it. Franco observes that premise when he conceives the first and last ligature note each as isolated situations, terminologically speaking, and defines all the "middle notes" uniformly as breves: "*Omnis media brevis . . .*"<sup>51</sup>

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So the value of the *mediae voces* varies only between the *brevis recta* and the *brevis altera* – not counting the exception of *proprietas opposita*. To cite the example of the regular three-note ligature of the second mode, whose middle note was a longa according to traditional theory: henceforth it can only be written as broken up into a two-note ligature (*cum proprietate et perfectione*) plus single (breve) note, since a *media vox* with the value of a longa can no longer be notated. Franco does emphatically underline this difference from the older theory:<sup>52</sup>

. . . quite wrong, then, is the viewpoint of those who maintain that a middle note is long in a three-note ligature, but shall be short in all others.

<sup>48</sup> Cserba 233, 16–17 (CS I, 119a).

<sup>49</sup> Cf. in this connection H. BESSELER, *Studien zur Musik des Mittelalters, II. Die Motette von Franko von Köln bis Philipp de Vitry*, AfMw VIII, 1926, p. 150; particularly revealing in this context are the so-called *modi secundarii* of Walter Odington: "*Sunt et alii modi secundarii, scilicet cum cantus procedit per longam et brevem, et brevem et longam cum divisione modi inter breves, sic: 1\*\*1. Sed hic modus constat ex primo et secundo, et ad alteram eorum reducitur. Similiter cum cantus procedit ex brevi et longa, duabus brevibus et longa, sic: \*1\*\*1. Constat ex secundo et quarto, et sic de aliis diversis dispositionibus*" (CS I, 238b; this portion of the text survives in bad condition in the manuscript London, British Museum, Add. 4909, fol. 105v). These *modi secundarii* have only the (here isolated) rhythmic feet (*pedes*) in common with the original modus, which is a certain "way of movement" which "runs through the whole piece . . . as an uninterrupted pulsation" (BESSELER, *loc. cit.*, p. 149).

<sup>50</sup> In this context there is no need to deal with the *simplices*, the single notes.

<sup>51</sup> Cserba 243, 7 (CS I, 125b).

<sup>52</sup> Cf. the three-note ligature *sine proprietate* in Johannes de Garlandia.



. . . patet positio illorum esse falsa, qui ponunt in ternaria aliquam mediam esse longam, in omnibus autem aliis fore brevem.<sup>53</sup>

or:

. . . those who ligate a long between two breves . . . are erring most exceedingly, for with regard to the notation of middle notes, as seen before, all middle ones are to be made short.

. . . vehementer errant . . ., qui inter duas breves longam ligant, cum de impositione mediarum, ut visum est prius, omnes mediae brevientur.<sup>54</sup>

The rhythmic significance of the *proprietas*, which can be read, as before, from the first ligature note, is now restricted to that first note alone. Franco, thinking of the first note value in a two-note ligature in Johannes de Garlandia, lays down as mandatory that the first note in a ligature *cum proprietate* is always short, in a ligature *sine proprietate* always long, regardless of how many notes may follow after it.

With regard to the final ligature note, whose value has now become independent from the *proprietas*, Franco redefines Johannes de Garlandia's concept of *perfectio* by analogy to his new concept of *proprietas*: for him, *perfectio* no longer refers to the "completeness" of the whole ligature in a modal sense, but is simply (to borrow an expression from the Vatican version of Garlandia<sup>55</sup>) "the *proprietas* of the ending" [rather than the beginning]. Here, too, Franco maintains a direct connection with Johannes de Garlandia, despite the massive change in meaning: it is not just that the final note of the Franconian ligature *cum perfectione* is long, just as was the case in nearly all "complete" regular modal ligatures; even the form and rhythmic significance of the ligature *sine perfectione* take their example from Johannes de Garlandia: for in Franco, too, the ligatures that are visibly "incomplete" (for example, the fragmentary remains of thetorculus or scandicus or porrectus, with the shapes  or ) are called *sine perfectione*. And since their final available notes, in Johannes de Garlandia, are normally (that is, in the first, third, fourth, and sixth modes) short, Franco does not even have to depart from tradition when it comes to the assignment of values. The only thing that does not fit his conception is the idea that we might still be dealing here with genuinely "incomplete" ligatures. For him the notation *sine perfectione* has become a merely graphic variation on the (regular chant or modal) notation *cum perfectione*, and *perfectio* itself merely a technical term, whose original meaning can scarcely be gathered anymore from its new application.

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In the case of the ligature *cum opposita proprietate* we can similarly recognize the dependence on Johannes de Garlandia. In establishing the values of the three-note ligature *cum proprietate opposita* (whose first two notes together make up the value of a breve, according to the method discussed above, p. 124), Franco redefines the *tractus ascendens* from a non-mensural sign of *reductio* or *fractio* into the well-known *signum semibreuitatis*:

<sup>53</sup> Cserba 241, 2–4 (CS I, 124a).

<sup>54</sup> Cserba 247, 14–18 (CS I, 128a).

<sup>55</sup> CS I, 178a.

. . . every opposite propriety turns the note to which it is attached, as well as the note following it, into a semibreve . . .

. . . omnis opposita proprietas facit illam semibreve, cui additur, et sequentem . . .<sup>56</sup>

Here, too, then, he achieves mensural specificity by delimiting, on the one hand, the effect of the sign to the beginning of the ligature – the *tractus ascendens* no longer applies to anything other than the first two notes of the ligature, no matter what its length – , and by conclusively defining, on the other, the most common case in the modal system (only two semibreves in the place of a breve), in accordance with the rhythmic value of these two notes:

Also, one cannot ligate more than two semibreves at once, and always at the beginning of the ligature.

Item plures semibreves quam duae simul ligari non possunt, et semper in principio ligaturae.<sup>57</sup>

And yet, while Franco largely agrees with Johannes de Garlandia with regard to such external matters as the formation, designation, and rhythmic interpretation of ligatures,<sup>58</sup> he differs fundamentally from him in his theoretical conception. For whereas Johannes de Garlandia, as shown above, indicated even in the more complicated cases (and his clarifying signs really applied only to these) not so much the rhythmic values as such, but rather the modal procedures by which these were to be determined (with the active rhythmic mode playing a decisive role, in individual cases, in the determination of rhythmic values), Franco is interested only in the exact graphic designation and terminological definition of the values themselves, no matter whether they occur within the context of a rhythmic mode or in rhythmically free constructions.

If Franco nevertheless devotes a brief section in his treatise to the rhythmic modes,<sup>59</sup> then for him even this, it seems, is not so much a concession to tradition as rather an opportunity to demonstrate his new conception with the help of this topic. For instead of the fundamental rule that the same *modus* must be strictly maintained within every *ordo*, [133] we find him actually discussing the possibility of changing from one mode to another within a short section.<sup>60</sup> Neither the precept of modal *reductio* nor the technique of *fractio* are encountered anymore: the combined rhythmic value of any ligature is made up by the sum total of the independently determined constituent values; and appositions –

<sup>56</sup> Cserba 243, 3–4 (CS I, 125a).

<sup>57</sup> Cserba 247, 19–20 (CS I, 128a).

<sup>58</sup> – even so, the disagreements should not be underestimated: the three-note ligature *cum proprietate* in Garlandia begins preferably with a longa; the imperfect two-note ligature *sine proprietate* – or, more precisely: the three-note ligature *sine proprietate* whose last note has been split off – ends with a longa; in the case of the *proprietas opposita* it is possible – depending on the length of the ligature – for more than two notes to make up the value of a breve. Nevertheless, it must be admitted that Franco is often forced to decide between alternatives that would have been equally valid and common in the realm of modal theory, simply because his system is different in nature.

<sup>59</sup> Cserba 247, 23 – 249, 7 (CS I, 128a–129a).

<sup>60</sup> Cf. against this the still rigorously modal determinations of the Anonymous St Emmeram: “*Nullus enim cantus directe compositus a modo incepto potest ita priuari, quia sit ad eum per equipollentias uel conuenientias ibi positas proportionaliter reducendus. Et talis ordinatio usque ad pausationem, que finis punctorum dicitur, est in omnibus cantuum dispositionibus obseruanda; post quam pausam modus alius et noua equipollentiam uariatio pro uoluntate imponendum poterit ordinari*” (Sowa 48, 16–22).

that is, ligatures provided with *currentes* – are no longer treated as fundamentally different from ligatures followed by single notes:

Regarding the value of such conjoined notes we cannot give any rules other than those that had already been provided earlier on for single notes and ligatures.

De valore autem coniunctarum talium non possunt aliae regulae dari quam illae, quae de simplicibus et ligaturis prius dantur.<sup>61</sup>

### III.

The response to Franco's innovations is mixed. Until the turn of the century there are few authors who make a case for his theory – thus for example Hieronymus de Moravia (in his redaction of the Garlandia treatise), Walter Odington, Robertus de Handlo, and a few abbreviators. But Lambertus, the two anonymi of the seventies – Anonymous IV and Anonymous St Emmeram –, and beside them Dietricus, Anonymous VII (CS I), and Alfredus, stick more or less consistently and skilfully to the tradition associated with Johannes de Garlandia's name, and partly even to an older modal tradition, though not, of course, without confronting the modern conception of Franco and following it in some details. This may be due not only to a strong sense of tradition, but also to a certain lack of flexibility on the part of these authors, none of whom can compare to Johannes de Garlandia or Franco of Cologne in independence of spirit or creative ability. What may also have played a role, however, is the fact, above all, that the core of the continental repertory was still made up, in the second half of the thirteenth century, of chant settings, conducti, clausulas, and especially the Notre Dame motets based on clausulas, which, while to some extent modernised both compositionally and notationally, still at bottom represented the modal tradition. In view of the contemporary repertoire, then, a principled rejection of the modal system was unnecessary, and indeed not even advisable – given that this repertoire undoubtedly still circulated in many purely modal versions.

[134] In what follows we will deal more closely with the peculiar state of rhythmic and notational theory in the later thirteenth century. It is true that we should not expect an original innovation from this period, one that would lead us far beyond Franco: these are stagnant, and at times downright provincial, years. And yet it is precisely our encounter with the late phase of modal theory that turns out to be particularly informative. It is not just that the push towards expansion and renewal of the traditional theory, and the resolution of problems that are unavoidably attendant upon that aim, offer a glimpse into the specific habits of thought and work of those authors; Franco's greatness, and the scope of his vision, can be fully measured only against the response of epigones, and it is only against the background of those stagnant decades that we can truly understand the uncommonly strong and broad impact which Philippe de Vitry effected more than half a century after Franco.<sup>62</sup> In what follows we can only deal with a few characteristic details,

<sup>61</sup> Cserba 244, 11–13 (CS I, 126a).

<sup>62</sup> Of course the concept of *ars nova* itself is not quite so revolutionary: even Eberhard von Freising writes in his *Tractatus de mensura fistularum*: “*In metiendis organorum fistulis novam artem ingredientes . . . convertimur*”(GS

not only because the scope of a study of this kind must have certain limits, but also because of the limited historical importance of these later authors.

The ligature rules of Anonymous IV were adopted almost *verbatim* from the *Positio de musica mensurabili* of Johannes de Garlandia, yet they have been expanded in telling fashion: Anonymous IV completes the description of every “complete” ligature with the words *cum perfectione*, for example in the first ordo of the first imperfect mode (♩ ♪ ♮ ♩ | ♩ ♪):

two [ligated] without propriety and [with] perfection and a long rest of two tempora following, two ligated with propriety and perfection and one breve rest of one tempus . . .

duae sine proprietate et [cum] perfectione cum longa pausatione duorum temporum sequenti, duae ligatae cum proprietate et perfectione et una brevi pausatione unius temporis . . .<sup>63</sup>

As long as the interpretation is based on the modal conception of Johannes Garlandia, whose treatise Anonymous IV expressly invokes on two occasions,<sup>64</sup> this additional expression does not affect the rhythmic significance of the ligature; in that case, the *cum perfectione* would correspond to the . . . *et perfecte posita* in the *Positio* of Johannes de Garlandia – where the same *ordo nobilis, sed parum usitatus* (as Anonymous IV calls it)<sup>65</sup> is described simply with the words:

Two [ligated notes] without propriety and with the required rest, and similarly two with propriety and with the required rest . . .

Duae sine proprietate et debita pausatione et duae cum proprietate et pausatione debita similiter . . .<sup>66</sup>

According to Franconian theory – and Anonymous IV, by his own testimony, knows about it, too<sup>67</sup> – the added *cum perfectione* would in some cases be absolutely wrong, since it would be irreconcilable with the rhythmic value to be indicated; the first ligature of the ordo quoted here, with the *brevis* as final note, should according to Franco have been notated *sine perfectione*.

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II, 280b), and the Anonymous St Emmeram uses the expression to characterise the treatise of Lambertus, of which he certainly has no especially high opinion: “*errantes ut puto fiunt / Arte noua rapti Lamberti nunc ita capti*” (Sowa 6, 23–26).

<sup>63</sup> CS I, 345b; the “[cum]” at the beginning of the quotation was supplied not arbitrarily by the editor. For on the one hand, Anonymous IV describes the same two-note ligature elsewhere (CS I, 329b) as *sine proprietate et cum perfectione*, and on the other, this is not the only place in Anonymous IV where the casual *sine proprietate et perfectione* stands for the correct *sine proprietate et cum perfectione*. That the text cannot possibly read *sine perfectione* in the location cited here follows from the fact that an imperfect two-note ligature at the beginning of the first mode, as a relic of a three-note ligature *cum proprietate*, could have been written only *cum proprietate* – that is, ♩ ♩. However, since the ligature is expressly called *sine proprietate*, it can only be an imperfect two-note ligatures; an imperfect two-note ligature *sine proprietate* would have the values ♩ ♩, and would therefore represent the second mode.

<sup>64</sup> CS I, 334a and 341b.

<sup>65</sup> CS I, 345b.

<sup>66</sup> Cserba 202, 16–18 (CS I, 102a).

<sup>67</sup> CS I, 342a and 344b.

What could be the purpose of this terminology [of Anonymous IV], which to all appearances is needlessly pedantic, and thereby actually misleading,<sup>68</sup> It can only reflect the intention to adapt Johannes de Garlandia's conception to a later period, when *perfectio* no longer referred to modal "incompleteness" but rather to a particular way of writing a final note with a fixed rhythmic interpretation, and when, consequently, the rhythm of a ligature was not unequivocally determined unless both *proprietas* and *perfectio* were mentioned. Over and above this, Anonymous IV acknowledges the change in theoretical situation when he expands the rule of Johannes de Garlandia

. . . never should any figure be notated without propriety where it can be notated with propriety  
 . . . nunquam debet poni aliqua figura sine proprietate, ubi potest poni cum proprietate<sup>69</sup>

by adding the rule

. . . we should not do anything without perfection that can be done with perfection  
 . . . nil debemus facere sine perfectione, quod facere possumus cum perfectione<sup>70</sup>

thereby elevating a point that which was still self-evident to Johannes de Garlandia to a more explicit level. So the many *cum perfectione* tags are not actually "Franconian," but reflect an (at bottom pleonastic, but now necessary) effort to make the conception of Johannes de Garlandia more precise. That Anonymous IV would prefer, in this connection, the modern expression *figura cum perfectione* over the expressions *figura perfecta* or *figura perfecte postia* should not really surprise us: for this expression lends to the theory that same semblance (however non-committal) of up-to-date-ness which Lambertus, in a certain different way, did not shirk from using either.<sup>71</sup>

Essentially more complicated is the Anonymous St Emmeram's position vis-à-vis the concept of *perfectio*. For he defines as "perfect" not just that

to which nothing further can be added under such a distinction, and from which something can be taken through diminishment,

cui nihil amplius sub tali differentia potest addi et a quo per diminutionem aliquid potest demi,<sup>72</sup>

which could still be understood in Johannes de Garlandia's sense, namely, as applying only to the way the ligature is notated, but he also brings together *perfectio* and *longitudo* in a direct connection:

For a long note calls for perfection in ligatures . . . ,

Longitudo namque causat perfectionem in figuris compositis . . . ,<sup>73</sup>

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<sup>68</sup> The erroneous classification of Anonymous IV under the authors of "Franconian notation" in W. APEL, *Die Notation der polyphonen Musik 900–1600*, Leipzig 1962, p. 218, is probably due to this terminology.

<sup>69</sup> Cserba, 205, 2–3 (CS I, 103a), corresponding to CS I, 181a.

<sup>70</sup> CS I, 345b.

<sup>71</sup> Cf. below, p. 139. The accompanying texts for the modus examples in the Paris version of Garlandia were, by the way, modernized in the same fashion.

<sup>72</sup> Sowa 44, 10–12.

<sup>73</sup> Sowa 44, 22–23.

which can only be understood in the sense of Franco, according to whose teachings “*omnis perfectio longa, et omnis imperfectio brevis.*”<sup>74</sup>

Still, the Anonymous St Emmeram upholds the rule of Johannes de Garlandia which states that the *proprietas* determines the value of all notes in a ligature: for example, the three-note ligature *sine proprietate* still embodies for him the succession of values Brevis–Longa–Brevis:

[136]

If I join three in this way, I say that the middle one shall always be long, the other are always short, by the law of wisdom.

Tres ita [i.e. *sine proprietate*] si iungam mediam semper fore longam / Dico, breues alie sunt semper lege sophie

with the gloss

in a three-note ligature without propriety and perfect, the penultimate is said to be long, and the two outer ones are short.

in figura ternaria sine proprietate et perfecta penultima dicitur esse longa et due exteriores sunt breues.<sup>75</sup>

The difficulties in which the Anonymous becomes entangled because of his two-track terminology (*proprietas* after Johannes de Garlandia, *perfectio* after Franco) are revealing. First he points out that the three-note ligature *sine proprietate* should be notated perfectly,

since we do not need anything [to spell out] the imperfection,  
eo quod de imperfectione ipsius nullatenus indigemus,<sup>76</sup>

since the last note is short already because of the lack of *proprietas*, and hence does not need to be graphically characterized as such. Then, however, he appears worried about the contradiction between the perfect notation and the fact that the last note is short. Not being able to commit himself for one or another method, Johannes de Garlandia or Franco, he finally concedes that one may also choose to write this three-note ligature as imperfect:

Therefore let this second distinction [the three-note ligature *sine proprietate*] be notated with perfection and without propriety . . ., though the art would certainly allow such ligatures to be notated as imperfect.

Figureretur igitur hec secunda differentia [the three-note ligature *sine proprietate*] cum perfectione et sine proprietate . . .; tamen ars tales imperfectas bene permetteret figurari.<sup>77</sup>

He allows this latitude only to himself, however. In Lambertus, whose theory he frequently (and in general not unjustly) attacks, he pillories the same latitude as inconsistency:

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<sup>74</sup> Cserba 243, 2–3 (CS I, 125a).

<sup>75</sup> Sowa 45, 6–11.

<sup>76</sup> Sowa 30, 4.

<sup>77</sup> Sowa 30, 18–21.

On which issue they seem to be contradictory and discordant with themselves . . .

Super quo etiam uidentur sibi ipsis esse contrarii et discordes . . .<sup>78</sup>

To be sure, the Anonymous St Emmeram has in no way done justice to Franco; for the *media vox* remains long, whether the ligature is perfect or imperfect; Franco himself had emphatically taken issue precisely with this.<sup>79</sup>

[137] What is immediately striking about the ligature theory of Lambertus is its classification scheme. Lambertus does not classify according to the different manners of notation (*cum, sine, cum opposita proprietate*, etc.), but according to the number of notes associated with each ligature, beginning with two-note ligatures (which precede the single note with plica) and ending with six-note ligatures. Foregoing the use of any kind of overarching rule, he treats all details of notation and their rhythmic significance individually for each ligature: no ligature is derived from any other.<sup>80</sup>

The example for this principle of classification could only have been set by early modal ligature theory (before Johannes de Garlandia), in which the value of every ligature was determined purely by the number of notes and by their position within a ligature chain, as described, for example, in the following section from the *Discantus positio vulgaris*:

Whenever two notes are ligated in discant, the first is short, the second long . . .; but when three, if the ligature is preceded by a rest, then the first is long, the second short, the third long; if a long note comes before the ligature, the first two notes are short, the third long; if the ligature is followed by a long note, the third shall be longer than a long. And if four are ligated, they are all short . . .

Quandocumque duae notae ligantur in discantu, prima est brevis, secunda longa . . .; quando autem tres, si pausa praecedat, prima est longa, secunda brevis, tertia longa; si nota longa praecedat, primae duae sunt breves, tertia longa; quam si nota longa sequitur, tertia erit longior longa. Si vero quatuor ligatae fuerint, omnes sunt breves . . .<sup>81</sup>

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<sup>78</sup> Sowa 43, 28–29. Walter Odington, too, has occasion to discuss the rhythmic indeterminacy of the *perfectio* in the older ligature theory: “*Et sic aliquando habent ligaturam cum perfectione brevem, ut in ternaria ligatura [three-note ligature sine proprietate], et aliam longam, ut in binaria [two-note ligature cum proprietate], et hoc est incertum*” (CS I, 244b).

<sup>79</sup> See above, p. 131.

<sup>80</sup> Admittedly we find groupings of ligatures according to the number of notes also in the two anonymi discussed a moment ago; yet these serve merely the purpose of a first orientation. This purely external scheme has been abandoned in favor of an overarching viewpoint in the much more extensive discussion of the rhythmic interpretations of each ligature.

<sup>81</sup> Cserba 190, 13–19 (CS I, 94b–95a). Of course one should not class the whole *Discantus positio vulgaris* under early modal theory. In its transmitted form it undoubtedly represents the cumulative result of manifold later interventions and expansions, and perhaps it was anyhow put together from different and originally separate parts. A few details may be mentioned in support of this assumption (all page and line numbers in what follows refer to Cserba).

The sixth mode is described as consisting of breves and semibreves (193, 17–18); semibreves in the sixth mode are, however, not mentioned even by Johannes de Garlandia, Anonymous VII (CS I), and Anonymous IV.

The discussion of the modes begins after the definition of the *mothetus* with the words: “*Cuius quidem modi sunt VI*” (193, 13–14); this connecting phrase is typical of the style of Hieronymus de Moravia (cf. 7, 22; 40, 28; 42, 12; 45, 6; 49, 13; 52, 35; 53, 13; 78, 27; 150, 30; 168, 17; 289, 2; 290, 5).



The enumeration of the *soni* (intervals) breaks off after the third interval (*tonus*) with an “*etc.*” (190, 3); so the compiler presumes that the reader knows his own chapters that precede the *Discantus positio vulgaris*.



Yet because of subsequent compositional developments – Lambertus himself writes between Franco and the Anonymous St Emmeram – it is no longer possible to limit the discussion to so few ground rules. There are a number of singular features in his theory that were evidently taken from Johannes de Garlandia, and others that point already towards an engagement with the theory of Franco.

Still quite close to early modal theory, for example, is the rule that the last note of a three-note ligature *cum opposita proprietate*<sup>82</sup> can have different values depending on what note follows the ligature:

... the last one yields two tempora if a short follows; but if a longa, then it is measured in three tempora.  
 ... ultima duo tempora donat, si brevis sequitur; si autem longa, tunc trino tempore mensuratur.<sup>83</sup>

What also points towards the sphere of modal theory is the fact that none of the ligatures cited in his treatise exceeds the combined value of a modal three-note ligature: from the five-note ligature onwards, all ligatures are written *cum opposita proprietate*, with a five-note ligature having the value , and a six-note ligature the value .<sup>84</sup> From this manner of notation it is apparent that Lambertus, although determined to observe the principle of modal *reductio* by means of *fractio*, can no longer presume knowledge of that principle on the part of his readers. That is why he uses his *tractus ascendens* to express what is meant rhythmically. Here, too, his eclectic approach is revealed in characteristic fashion: on the one hand, the *tractus ascendens* still designates concrete mensural values – in the five-note ligature there are two, and in the six-note ligature three, partial values in a brevis recta –, but on the other, Lambertus has abandoned the principle of Johannes de Garlandia according to which the *tractus ascendens* denotes exclusively the *reductio* to a two-note ligature: in letting go of this typical modal manner of regulating things, he approaches the conception of Franco, for whom the *tractus ascendens* determines only the beginning of the ligature. Still, the Lambertian manner of notating five- and six-note ligatures also indicates a turn away from Franco: for it was only the latter's rule "*Omnis media brevis*" that made it possible in the first place to exceed the combined value of a three-note ligature in the rhythmicization of a long ligature; in terms of Johannes de Garlandia's theory the *reductio* to a three-note ligature, as demanded by Lambertus, would have been self-evident also – or more precisely: only – without a *tractus ascendens*.

What points to Johannes de Garlandia is the three-note ligature with the value Brevis–Longa–Brevis.<sup>85</sup> It is written *sine proprietate*, although Lambertus does not enter into a discussion of this; in the shaping of

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The number of intervals varies between nine and thirteen not only in Hieronymus de Moravia (cf. 58, 27 ff.; 62, 5 ff.; 148, 13 ff.); even in the *Discantus positio vulgaris* there is a conspicuous discrepancy between the nine *soni* including the unison (190, 2–3) and the ten *modi* (191, 7–8: “. . . per aliquem dictorum [!] IX modorum, vel facit unisonum”).

The transition from the rules of progression to the species of discant is taken up by the sentence “*Quibus visis et memoriae commendatis totam discantandi artem habere poterit arte usui applicata*” (192, 26–27). This same sentence, but relating to a different subject, is encountered in Hieronymus in the chapter on *viella* and *rubeba*: “*Quibus visis et memoriae commendatis totam artem viellandi habere poteris arte usui applicata*” (291, 1–2). Did Hieronymus borrow this sentence from the *Discantus positio vulgaris*, or did he use it as a redactional formula of his own, to connect two originally independent sections in the *Discantus positio vulgaris*?

These observations may show that the text of the *Discantus positio vulgaris* is hardly conceived “in one go,” and that Hieronymus's indication to the effect that it was “*antiquior . . . omnibus*” (194, 23) could easily apply only to a few of its sections. The passage on the rhythmic interpretation of the ligatures might well be the most likely to have belonged to the latter.

<sup>82</sup> For the sake of clarity we will employ the Franconian ligature terminology in what follows, since Lambertus's terminology – as shown below – is not especially well suited to exact description.






<sup>83</sup> CS I, 275a – here it reads, contrary to the sense of the passage, the plural *mensurantur* (in agreement with the manuscript Paris, Bibliothèque Nationale, lat. 11266, fol. 27rb).

<sup>84</sup> CS I, 277a.

<sup>85</sup> CS I, 274b.

the final note is shown, once again, the ambiguity that was already mentioned in the discussion of the Anonymous St Emmeram.

To be understood mensurally, however, is the three-note ligature with the value Brevis–Brevis–Brevis.<sup>86</sup> It is written *cum proprietate* and *sine perfectione* throughout. Although it could also have been derived, as a *figura imperfecta*, from the four-note ligature in the sixth mode according to Johannes de Garlandia, the latter never notated the sixth mode with a series of imperfect three-note ligatures: here one can witness already the typical mensural insensitivity to the accumulation of – modally speaking – “irregular” ligatures.

[139] So the ligature theory of Lambertus does not offer a unified picture in any way. But for the external principle of classification, it was compiled, without any apparent sense of system, from more recent writings on the everywhere still noticeable basis of early modal theory, with the evident aim of covering in this way as many different rhythmic constructions as possible. And in this regard it seems that the exemplars were not even sufficient for Lambertus: for he himself invented additional signs, for example ligatures that have a *tractus ascendens* not on the first but on the second note:  with the value  or , or  with the value .

These few singular features may suffice to show that the theory of Lambertus offered no room for the terms *proprietas* and *perfectio*, at least not in the specific sense established by either Johannes de Garlandia or Franco. And yet Lambertus could not bring himself to do away with those terms. There can be only one reason for this: that by the later thirteenth century, the two terms already belonged to the indispensable vocabulary of every ligature theory, so that no author could afford to ignore them.

In view of the evident confusion in his ligature theory Lambertus is only able to find emergency solutions: “perfect” and “imperfect,” for him, no longer apply to ligatures or their last note, but to the succession of notes within a ligature, more precisely: their ascent and descent:

It is to be noted that the ascent is twofold, and the descent likewise; for one thing is called perfect, and the other imperfect. The ascent is called perfect when the second note in a three-note ligature is higher than the first, and the third higher than the second. It is called imperfect when the second note is higher than the first, but the third, changing direction, is lower than the second or of the same pitch . . .

Notandum est, quod ascensus duplex est, similiter et descensus; nam quidam perfectus dicitur, et quidam imperfectus. Perfectus autem ascensus dicitur, cum in ternaria ligatura secundus punctus altior est primo, et tertius secundo. Imperfectus, quando secundus punctus altior est primo, et tertius secundo inferior reciprocando vel equalis . . .<sup>88</sup>

With this, the terms *perfectus* and *imperfectus* may still have been incorporated in the theory, but they no longer possess any connection with the rhythmic determination of the ligature.

Lambertus does not proceed very differently in the case of *proprietas*. Since this term, too, cannot be incorporated with any of its traditional meanings, he uses the term “*proprietas*” simply for the *tractus* itself, as it is to be added or taken away from the first

<sup>86</sup> CS I, 275a.

<sup>87</sup> CS I, 275a and 276a; for these two ligatures cf. the Anonymous St Emmeram, Sowa 61, 6–62, 8.

<sup>88</sup> CS I, 273b.

note: the regular pes, according to Lambertus, is written *sine proprietate*, but the regular clivis with the same rhythmic values *cum proprietate*.


Both terms still found their way into Lambertus's ligature theory, then, yet the way he applied them could no longer give the slightest indication as to the rhythmic interpretation of the ligature itself: they had become bookish, and at the same time up-to-date-sounding, ornamental devices.

The other three authors mentioned above broadly confirm the results obtained so far. Although their treatises, too, offer plenty of informative details on the contemporary history of rhythmic notation, it will suffice only to give a few indications as to their peculiar character.

Dietricus, at the beginning of his ligature theory, generally observes the conception as well as the terminology of Johannes de Garlandia. Yet the basic modal values are no longer sufficient for him: his chief concern are evidently the short values in the upper voices of motets. Yet instead of conceptually elaborating the system of Johannes de Garlandia in that direction – we are dealing here especially with imperfect ligatures –, he is content merely to spell out the rhythmic values for every case that was not directly covered by his source (without terminological definitions, that is), as, for example:

Also, one sometimes encounters such a figure , which is worth three short descending notes.

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Item invenitur quandoque talis nota , quae valet tria puncta descendencia brevia.<sup>89</sup>

Since he does not derive these ligatures from each other (as is shown also by his choice not to use appropriate terminology), he arrives in part at values that might very well have reflected contemporary notational practice, but no longer the (consistently extended) theory of Johannes de Garlandia – even the two-note ligature *sine proprietate* had a value only of two breves for him:

Two ligated without propriety are both short and are worth one longa.

Duae vero sine proprietate simul ligatae ambae sunt breves et valent unam longam.<sup>90</sup>

So we are dealing with a doctrine which, despite its initial dependence on Johannes de Garlandia, fundamentally declines to observe any systematic arrangement: just as in the case of Lambertus, the value of every ligature has to be learned for each shape individually and schematically. Yet Dietricus does depart from Lambertus in that he cites ligatures in his treatise that are frequently found in the music manuscripts of his time, whereas Lambertus evidently invented a whole series of ligatures that were never taken seriously in actual musical practice.

Anonymous VII (CS I) offers a majestic overview over traditional modal theory, but in the discussion of ligatures he limits himself to only a few examples (clivis and scandicus are lacking, for instance), whose rhythmic values he moreover does not specify. He

<sup>89</sup> MÜLLER, *loc. cit.*, p. 6.


<sup>90</sup> *Loc. cit.*, p. 6.


speaks of *proprietas* with respect to both single notes<sup>91</sup> and ligatures, and understands it to mean the regular manner of writing:

It is the propriety of a three-note ligature, when descending, that it has a *tractus* on the left side . . .

Proprietas ligature trium descendendo est, quod habeat tractum a parte sinistra . . .<sup>92</sup>

Important, with a view to the dating of the manuscript, is the fact that Anonymous VII offers as *proprietas* of the five-note ligature on the notation with *tractus ascendens*:

It is the propriety of a five-note ligature that is has a *tractus* notated above the head, whether ascending or descending, as here: .

Proprietas ligature quinque est, quod habeat tractum super caput positum, tam ascendendo quam descendendo, sicut hic: .

This rule is probably to be understood in the sense that Anonymous VII, like Lambertus, would like to dissociate himself from unmodal rhythmicizations that did not take into account the principle of *reductio*; but a danger of that kind does not exist before Franco.<sup>94</sup>

The concept of *perfectio* is altogether lacking in Anonymous VII. It is hard to be sure why the author, despite the late date of writing, would have been so sparing with commentary in his ligature theory; presumably he wanted to limit himself to the modal values that were actually current at the time.

[141] Although Alfredus, finally, offers a large number of different ligatures and conjunctions, and discusses their rhythmic interpretation – to be sure not always with the clarity one might wish –, he strings them together without a rigorous sense of system. The concept of *proprietas* turns up only in the later section, and has already been demoted here to a sign regulating (in the Franconian sense) the value merely of the first ligature note:


There are two kinds of descending figures, namely, with propriety and without propriety. There is correct *proprietas* when the first note has a downward *tractus* to the left; it is without propriety when it does not have a *tractus*. When the ligature is *cum proprietate*, and it consists of two notes, then the first is said to be short. If there are three notes, the first two notes will be short. If there are four, the first three will be short.

Figurarum descendendum duae sunt species, scilicet cum proprietate et sine proprietate. Recta proprietas est, ut primus punctus habeat tractum descendentem a sinistra parte; sine proprietate est, ut non habeat tractum. Quando est cum proprietate, si sint duae, prima dicitur esse brevis. Si sint tres, duae primae erunt breves. Si sint quatuor, tres primae erunt breves.<sup>95</sup>

<sup>91</sup> Cf. the quotation above, p. 128.

<sup>92</sup> CS I, 380b.

<sup>93</sup> CS I, 381a. I did not have the opportunity to inspect the manuscript Paris, Bibliothèque Nationale, lat. 6286. The ligatures have been reproduced after J. KNAPP, *Two XIIIth-Century Treatises on Modal Rhythm and the Discant*, *Journal of Music Theory* VI, 1962, p. 210.

<sup>94</sup> MICHAELITSCHKE, *loc. cit.*, p. 476, too, gives this five-note ligature the value .

<sup>95</sup> KROMOLICKI, *loc. cit.*, p. VI.

What is noteworthy about these rules is the lapse into the casuistry already observed earlier in Lambertus and Dietricus: instead of generally quoting Franco's rules on *proprietas* and *mediae voces*, the author applies them correctly in the individual case of every ligature. *Perfectio* does not appear in his treatise nor even in its later addition.

It is not just the greatness of Franco's theoretical achievement and the continued strong influence of the modal tradition that can be observed in the later treatises discussed here; there is a further aspect that deserves consideration.

It seems odd that the authors – despite the difficulties presented by the notation per se, which are not inconsiderable in any event – make no greater effort to work towards a unified, generally binding, and for this reason also more easily disseminated, theory of rhythmic notation, rather than coming up again and again with new signs, in what really does appear to be a rather amateurish fashion, or to ascribe new readings to existing signs, thereby unnecessarily complicating the theory, especially given that Franco had now created an exemplary and expandable system.

The cause for this “*multe diverse acceptiones de valore ligaturarum*”,<sup>96</sup> as they can be observed above all in the “lesser” authors, could hardly be the aim to develop an independently constructed system – the teachings of these authors are characterized, if anything, by too little sense of system. Rather, it must be the influence of contemporary notational practice itself, which makes itself felt by revealing the modal system to be inadequate, but which does not involve the next step of actually deciding in favor of Franco's system. For the notators – who were naturally more practically oriented than the author-teachers – had developed methods of notation that were largely independent of, or at least not strictly bound to, one of the representative theories, and realized these in practice, frequently enough in downright unsystematic and experimental fashion.<sup>97</sup>

In the present context, which is chiefly to do with the contemporary understanding of rhythmic notation rather than its practical realisation, let us mention only the difficulties attendant upon any attempt to assign the motet manuscript Bamberg to a particular school of thought on the grounds of its notation.

Johannes Wolf already accepted that the notation of the Bamberg codex “indicates that the exemplar was written in the period of Johannes de Garlandia.”<sup>98</sup> According to Heinrich Bessler, on the other hand, “[the manuscript] could go back to a conservative circle of musicians, whose notation was not Franconian but rather pseudo-Aristotelian [= Lambertian]”<sup>99</sup> – the rest strokes in the manuscript are indeed unequivocally “Lambertian.” Willi Apel brought the manuscript in connection with the theory of Dietricus: “The notation of **Ba**, by the way, agrees in almost all particularities (especially with regard to ligatures)

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

<sup>96</sup> Walter Odington, CS I, 243b. The consequences of such *diversitas* are mentioned by Johannes de Grocheo: “*Istis autem figuris diversimode significationem tribuerunt. Unde sciens cantare et exprimere cantum secundum quosdam secundum alios non est sciens.*” He therefore takes a decision that is quite unusual for his time: “*Nos vero hic non intendimus istorum diversitates enarrare nec ad omnia particularia descendere . . .*” and declines to discuss the ligatures and their rhythmic interpretation with the remark: “*Plurimi tamen modernorum [around 1300] Parisiis utuntur figuris, prout in arte magistri Franconis sumuntur*” (E. ROHLOFF, *Der Musiktraktat des Johannes de Grocheo*, Media Latinitas Musica, t. II, Leipzig 1943, p. 56, 7–17.

<sup>97</sup> Cf. in this regard the ligature tables in DITTMER, *loc. cit.*, pp. 39 and 52–55, and APEL, *loc. cit.*, p. 332.

<sup>98</sup> *Handbuch der Notationskunde*, first part: *Tonschriften des Altertums und des Mittelalters. Choral- und Mensuralnotation*, Kleine Handbücher der Musikgeschichte nach Gattungen, ed. H. KRETZSCHMAR, t. VIII, Leipzig 1913, p. 261; cf. *ibid.*, p. 229.

<sup>99</sup> s.v. “Ars Antiqua,” MGG I, col. 681.

with the system described in the little-known but extremely important treatise of Dietricus,”<sup>100</sup> and a little later, more confidently: “The progress represented by the Franconian system can be seen especially clearly if one compares the theory of Franco with that of Dietricus, who, as remarked earlier on, agrees with the notation of the Bamberg codex.”<sup>101</sup> More recently Gilbert Reaney has concluded: “The notation is Franconian, but the copyist has one or two traits of his own, such as the avoidance of oblique litatures.”<sup>102</sup>

One ligature, as an example for many, may suffice to show that the notation of the Bamberg codex is indeed, as Johannes Wolf recognized, closest to the theory of Johannes de Garlandia: in the tenor *Et super* (fol. 3v), the first ordo of the first mode is found written as . The two-note ligature is notated *sine proprietate* following Johannes de Garlandia, and thus represents the value Longa–Brevis. Yet according to Dietricus the value of this ligature would have been Brevis–Brevis, according to Franco (*sine proprietate et cum perfectione*) Longa–Longa; Lambertus, finally, does not know this ligature shape at all: according to his theory the two-note ligature ought to have been written .

Still, it is not surprising, in view of the close connections between the treatises, that there is also a large number of ligatures whose value is the same according to most authors.

A further peculiarity of ligature theory in the decades after Franco, then, is the experimental-casuistic trait among some authors, the relinquishing of any sense of comprehensive systematicity. In its place we find not just a practice of superficial compilation from other writings, but also an increasing orientation towards contemporary notational practice. When Dietricus speaks of the “finding” or “encountering” of signs,<sup>103</sup> he is undoubtedly referring in the first instance to musical sources. From time to time even Johannes de Garlandia seems to have operated in this way; for example, when he sets aside a second possibility of notating the sixth mode, apart from plicated ligatures:

Another rule of the same, even though it is not attested in that art, still it is well attested by the example which is found in *Alleluia Posui adiutorium*, in the triplum, namely, four bound with propriety, and thereafter threes and threes and threes with propriety.

Alia regula de eodem. Sed non probatur per istam artem, sed bene probatur per exemplum, quia invenitur in *Alleluia Posui adiutorium* in triplo <scilicet> quatuor ligatas cum proprietate et postea tres et tres et tres cum proprietate.<sup>104</sup>

[143] And Anonymous IV mentions also the practical cause for this alternative solution:

. . . since that *tractus* has sometimes very much deceived all singers, since they do not always know by how much it is supposed to rise or fall, unless they were excellent masters of organum . . .

. . . quia tractus ille quandoque decepit multum cantores omnes, quia nesciunt quandoque, quantum ascendit vel descendit, nisi fuissent optimi organistae . . .<sup>105</sup>

#### IV.

Just as the introduction of the terms *proprietas* and *perfectio* in thirteenth-century ligature theory was directly connected with the peculiar character of modal rhythm and

<sup>100</sup> *Loc. cit.*, p. 339.

<sup>101</sup> *Loc. cit.*, p. 347.

<sup>102</sup> RISM B IV<sup>1</sup>, 1966, p. 56.

<sup>103</sup> Cf. the quotation above, p. 140.

<sup>104</sup> CS I, 180a, corresponding to Cserba 202, 6–10 (CS I, 101b).

<sup>105</sup> CS I, 347b.

its original manner of notation, so their gradual disappearance from the theory, already by the later thirteenth century, did not coincidentally occur in tandem with the dissolution of this rhythmic system. It will not be necessary to recapitulate the history of both terms in particulars once again. To the extent that the modal system was losing its significance as the rhythmic norm, the two terms also lost their relevance. Having first been reduced to a manner of shaping and determining the value merely of single ligature notes, and then dragged along without any compelling necessity – with meanings that concerned merely the form, no longer the rhythmic values of a ligature –, they could, in the end, be safely jettisoned altogether, and replaced by simple descriptions of ligature forms with indications of the respective rhythmic values, as in the following passage from the treatise of Anonymous IV (CS III):

Every ascending final note is short, unless it has a tail or unless it is written the other way round, that is, placed with turned head, for then it is long. Every descending final note is long, unless it be oblique, for then it is short . . .

Omnis finalis ascendens est brevis, nisi habeat caudam vel nisi ponatur ordine prepostero, id est situatur adverso capite, quia tunc fit longa. Omnis finalis descendens est longa, nisi sit configurata, quia tunc est brevis . . .<sup>106</sup>

Although the conservative Anonymous I (CS III), around 1380, still cited Franco's derivation of the concept of *proprietas* from neumatic notation, he no longer paid any attention to the fact that his own conception of *proprietas* concerned something different altogether:

Proprietas in mensural music is a note or a sign given at the beginning of the ligature as originally invented in plainchant; it is a little *tractus* or tail of some ligated figure for the purpose of indicating that it is a long, breve, or semibreve . . .

Proprietas vero musice mensurabilis est nota vel signum primarie inventionis ligature a plana musica data in principio illius; est enim parvulus tractus vel cauda alicui figure coniuncta ad denotandum eam esse longam, brevem et semibrevem . . .<sup>107</sup>

The epoch of *proprietas* and *perfectio* had long since come to an end when Prosdocimus de Beldemandis, finally, summarized his view of the old ligature terminology in the following words:

. . . we now begin the discussion of ligatures, briefly treating the manner of binding figures to each other, and leaving out those quite useless things that have been handed down by other, ancient authors, namely *proprietas*, *opposita proprietas*, and *perfectio*, since such things seem to be of little help in practical terms . . .

. . . ad ipsarum ligaturarum pertractationem accedamus, modum figuras ad invicem ligandi sub brevitate pertractando, et ea que ab aliis antiquis huic arti satis inutilia tradita sunt, scilicet proprietas, opposita proprietas et perfectio, propter breviter dimittendo, eo quod talia practice modicum adiutorii addere videntur.<sup>108</sup>

<sup>106</sup> CS III, 377b; *configurata* is a synonym of *obliqua*.

<sup>107</sup> CS III, 377b, corresponding to CS IV, 259a; the Anonymous refers to the passage in Cserba 241, 7–8 (CS I, 124a–b). In Johannes Hanboys (CS I, 443aa ff.) there is a similar divergence between a quotation from Franco and personal verbal usage.

<sup>108</sup> CS III, 241b.